VOLUME 2 NUMBER 12 DECEMBER 1995

OS/2® MAGAZINE

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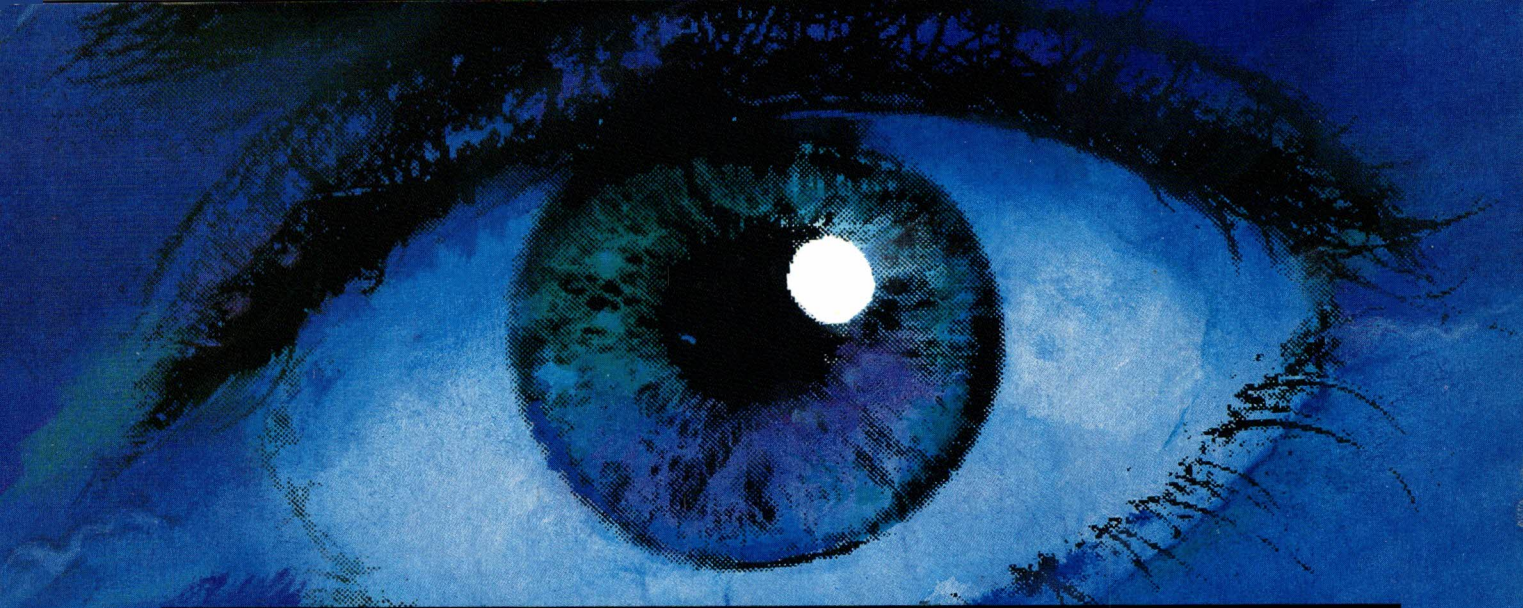

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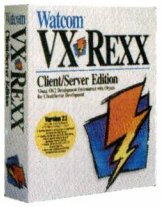

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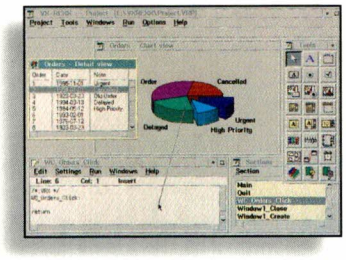

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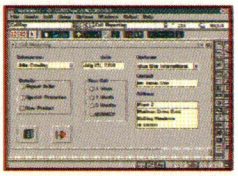

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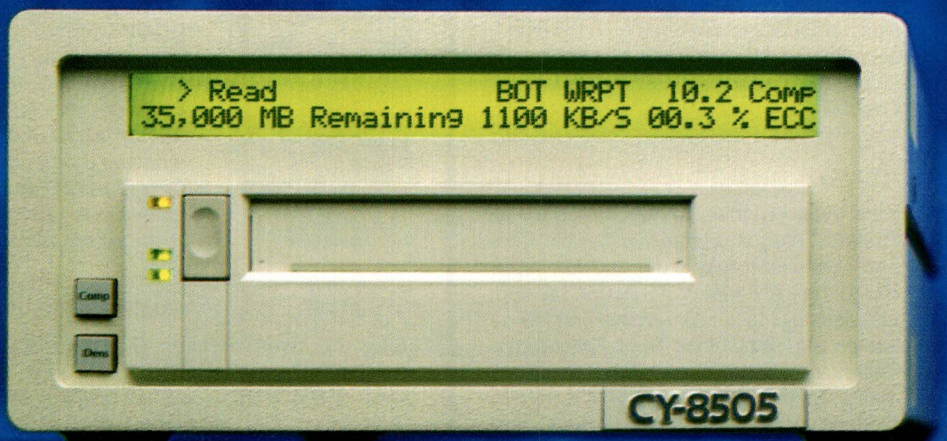

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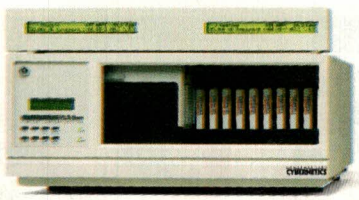

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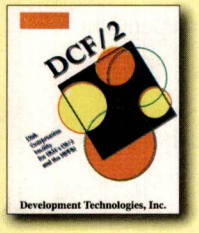

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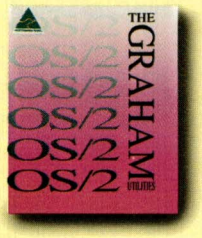

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Perspectives

Constant Change

The computer industry is always changing. Sometimes change is an earthquake, coming in large jolts that shake everything nearby and register on seismographs half a world away. When Microsoft's long-heralded Windows upgrade appeared, nobody could escape the sound of breaking glass. Both AT&T's court-imposed breakup in 1982 to 1983 and its recent self-imposed tripartitioning rocked the foundations of the telecommuncations industry. As with most earthquakes, such jolts are, fortunately, rare. Knowing Microsoft's history, for example, we're probably safe from another big temblor for two or three years.

We'll record few earthquakes at IBM. Instead of abrupt headline-making jolts, Big Blue moves in small, smooth steps. It's a model of constant change and eternal reorganization, as vice presidents come, financial officers go, divisions form, groups merge, businesses spin off, and vague joint-ventures appear and disappear. Individually, these small changes appear trivial. And, since IBM is so inept at telling suppliers, customers, analysts, and reporters what it's doing, those movements often go unnoticed. But change is indeed taking place.

The month of September saw several of these small changes, tiny compared to Windows 95's cataclysmic release or AT&T's dramatic sunderance. News spread quickly through the OS/2 community that John W. Thompson had become the general manager of IBM's Personal Software Products division and that IBM was consolidating PSP's technical development into its Austin site. These two changes, in their own way, might be just as significant to the future of OS/2 as the release of Windows 95. Here's why:

Personal Software Products (PSP) is home to IBM's desktop operating systems, including OS/2, DOS, and AIX. Since 1990, PSP has been led by the charismatic Leland R. ("Lee") Reiswig, Jr., and under his visionary leadership, OS/2 grew from a minor product to the successful OS/2 Warp and the powerful OS/2 Warp Connect.

On the other hand, Mr. Reiswig managed PSP at a time when the division lost millions of dollars and tried — and failed — to go head-to-head with Microsoft in the retail channel and in PC preloads, and to exploit Windows NT's disappointments and Windows 95's delays. As the division's general manager, Mr. Reiswig was held responsible and has been shifted horizontally to a new position.

Enter John W. Thompson. Paradoxically, PSP's new boss had been in charge of the division's marketing and software developer support efforts — the two areas where many OS/2 supporters (myself included) have been most critical of IBM's efforts. I'm hoping that Mr. Thompson's new position will give him the authority to divert sufficient funds to IBM's marketing and support programs, and will ensure that those programs are run effectively.

Replacing Mr. Reiswig, who had headed PSP since its inception, wasn't IBM's only choice. Top brass could have heeded calls to kill OS/2, or to fold operating system development into another division, or even spin it off as an independent company. Let's be cheered by the fact that IBM still sees its desktop operating system team as strategic and worth maintaining in its own division distinct from other software divisions that manufacture and sell development tools and applications software.

The other relatively small change was the decision to move Personal Software Products employees and labs in Boca Raton, Fla., to PSP's headquarters in Austin, Tex. So, a few employees are moving west — what's the big deal?

It's a big deal. Whenever you have a division that's underperforming, you need to look at communication, and many IBM employees have reported tension, misunderstandings, and cultural differences between the two sites. With the Boca Raton-based development team psychologically separated from the Austin-based marketers (and some developers) and managers racking up frequent-flier miles, instead of developing and implementing strategy, no wonder vital projects like OpenDoc and OS/2 Warp Connect for PowerPC are so many months behind schedule.

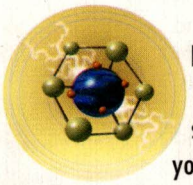
The decision to consolidate most of PSP (there are other offices in the U.S., but Boca and Austin are the big sites) is another positive signal about OS/2's future. IBM's managers are making a strong effort to move the group *intact*, making it tough for PSP's Boca technical staff to transfer to other IBM divisions, for example, and offering generous incentives and financial assistance for the 900-or-so employees expected to relocate to Texas' capital city.

In these austere days of huge Big Blue layoffs and brutal expense slashing, why would IBM spend such a fortune? IBM's executives must be betting that a unified PSP, under its new management, and with products in the pipeline, like OS/2 Warp Server and OS/2 Warp Connect for PowerPC, will more than repay that tremendous expense and disruption to business.

Sure, IBM's changes seem small when compared to the "phenomenon" that is Windows 95. But they've left me more optimistic about OS/2's future than a year ago. Signs are that OS/2, like constant change, is here to stay.

Alan Zeichick
Editor-in-Chief

IF YOU THINK YOU HAVE ENOUGH BACKUP FOR YOUR OS/2 WARP SERVER OR DESKTOP, THINK AGAIN.



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Ready! for IBM LAN

Letters

"File Manager/2 has evolved into something more."

No more whining

Dear Editor:

I completely agree with Alan Zeichick's views in his September *Perspectives* (p.7). He precisely expressed the sentiments of many OS/2 users. If OS/2 ISVs want their products to gain market share, they must produce applications with features that excel in all categories. Most OS/2 users will agree that applications touting native OS/2 compatibility do not carry many selling points, especially if the application's features lag behind their Windows and Mac counterparts.

The paradox is that OS/2 is a premier operating system, but its native consumer-market applications leave much to be desired. On the other hand, OS/2 vertical market applications are outstanding, if you need a major network management, an accounting, an inventory, or a point-of-sale package. However, the features of its consumer market word processors, spreadsheets, and databases are severely lacking.

The future does look bright in some areas. SPG's ColorWorks, Sundial's Relish, Development Technology's DeskMan/2, SofTouch's utilities, and IBM's DB2/2 are some examples that stand out. I can only hope that our word processor, spreadsheet, and database ISVs follow suit.

Kevin Baxter

Dux/American Heritage

Dear Editor:

Guy Wright's review of the American Heritage Dictionary Deluxe Third Edition with Roget's II Thesaurus (October 1995, p.50), while quite strong in its position, might actually have been somewhat inappropriate due to circumstances that the reviewer certainly did not inquire about with us and apparently was not aware of concerning the product and its actual evolution.

When the SimCity Classic user base found out that we had been developing a dictionary for OS/2, they wanted it and they wanted it—NOW! In fact, there was such a huge demand for the product we had to get the dictionary out with the idea that we would test market it for future enhancements and greater integration into the OS/2 desktop.

We solicited recommendations for enhancements and features which have been incorporated into the follow-up version that is being released along with the Concise Columbia Electronic Encyclopedia and can stand alone or integrate with the dictionary.

What we were doing was, in effect, responding to user inquiries. They wanted the product regardless of its status. They wanted a stand-alone, workable dictionary immediately. We never expected the explosion and growth in popularity of the product. For the new version, we used Visual Age C++ compiler, allowing vertical splitter bars and scalable windows, as well as many other exciting new features that take advantage of the power of OS/2.

The window itself is not only resizable now, but it also has a new feature — a splitter bar that allows you to customize the partitioning of space allowed for the text window and the list window. The font sizes are now changed using a standard OS/2 facility, which allows you to choose any font and drag and drop it in. The display is then fully reformatted, including the prompting tabs. Finally, the print option has always been available through the Edit menu.

Updates and information on this and other products can be accessed and downloaded from our FTP or Web site: *http://www.rivendell.com/dux*, or in the U.S. call (800) 543-4999.

We are confident that the new American Heritage Dictionary will far surpass not only Mr. Wright's expectations but, more importantly, those of many professional and business writers, report and presentation editors, word-processor and data-entry people who also share their excitement and enthusiasm for the power of OS/2.

Bob Adams
Dux Software

FM/2 blues

Dear Editor:

I was disappointed that you picked File Manager/2 over DirMaster in your October 1995 Editors' Choice Awards (p. 24).

Based on your article, I downloaded the appropriate files, installed FM/2, played around with the program, and then uninstalled it. I found that it was impressive with all its bells and whistles, but that was about it.

I had the following problems with FM/2: I only used approximately half the applications installed and, for me, there are better stand-alone programs.The graphics looked amateurish; being extremely large, they are similar to a second grade reader or a large print book. I had to scroll to find the right icon, because all the available icons were not visible at one time. And, the program has a redundancy in that all the applications accessible from the main FM/2 program appear as icons in the FM/2 folder.

In comparison, DirMaster (*ilgdm221.zip*) is a much more professional looking program that has programmable user-buttons in its workspace. It is a no-nonsense program that quickly and efficiently allows you to do what needs to be done.

In fact, I would even recommend Norton Commander for OS/2 (*fc2_131.zip*) as faster than FM/2.

Roger Seletsky

While there are many capable file managers in the OS/2 marketplace, our conclusion was that File Manager/2 has evolved into something more. When you factor in the utilities that are included with FM/2, as well as the supplemental free utilities, the feature set is closer to a utilities pack-

age than a file manager. This fact, along with the consensus in the OS/2 community that FM/2 is a great product, is what earned it an Editors' Choice award.

DCF/2 review refuted

Dear Editor:

As the new owners of DCF/2 we want to thank you for the review of our product in "Disk Compression Shootout," (October 1995, p. 45). We also thank you for the opportunity to clear up the problems are present in the review.

Let us first clarify some misunderstandings of DCF/2's true nature. Despite sharing a container storage model, DCF/2 and Stacker are fundamentally different products. DCF/2 is, first and foremost, a disk server. It does not manage files; it creates virtual drives on any media so that OS/2 itself can manage files. These virtual drives are dynamically mountable and appear to OS/2 as just another physical drive. This is why DCF/2 enables HPFS to work on removable media and NetWare volumes. Virtual drives can also be influenced by other modular facilities, such as the high-speed compression/decompression engine included in the DCF/2 package.

Many users find our disk server model easier to use than the file server model used by products like ZipStream. ZipStream's compressed files are visible in a non-compressed file system and users have to know what they're doing in order to access them. With the disk server model, you simply mount the container as you would insert a floppy disk, and that's it! To move files in the file server model, you must find and copy all of the appropriate directories. With the disk server model, you simply copy a single container file.

The review claims that containers are inherently bad and unreliable. This position is a curious one, since millions of happy DOS users have been using containers for years. All DOS-based compression schemes are container based, as are archival storage programs (such as ZIP, LHA, or ARC) and the mainframe disk server technologies upon which DCF/2 is modeled.

The claim is that if you lose a container, you lose everything. The DCF/2 1.4 implementation addresses this issue head-on by incorporating after-image journaling that ensures that transactions can be rolled back if necessary. Unlike earlier versions, which were potentially unreliable in the event of a system trap or hang, journaling guarantees that even in the event of a total system failure, DCF/2's disk writes are always completed or are rolled back to their previous state. Despite months of continuous testing during which we attempted to trash a virtual drive, involving concurrent read and write cycles, deliberate power failures, crashed applications, forced system traps, and abortive shutdowns, DCF/2 1.4 never lost a virtual drive.

We have some concerns regarding the testing methodology used in the review. An unknown set of 1,400 files were copied, using the Workplace Shell, from one file system to another. Inserting the Workplace Shell's multithreaded drag-and-drop copy into the mix was ill advised from a benchmarking perspective. It is also unclear if the tests were performed more than once, nor do we know the nature of the files used for testing. In addition, we know neither the system configuration(s) used, nor the specific version(s) of the software tested. In short, the tests can't be reproduced or subjected to outside verification.

Furthermore, what the test actually represents is questionable. It effectively models a suitcase use of the products involved: you pack everything into the suitcase, move the suitcase, and then you unpack everything out of the suitcase. That differs considerably from DCF/2's design point, which is more like a file cabinet. You load it up, and then you live out of it, reading and writing a few files at time. We think that the file cabinet more clearly represents the real world use of disk compression software; testing based upon this paradigm would have resulted in completely different performance and reliability results.

Even within the testing, there is a strange inconsistent treatment of the measurements. For example, performance figures are summarized as some strange ratio between copying compressed and uncompressed data. DCF/2 is portrayed as slower than Stacker, but the review's own tests indicate it is almost one and a half minutes faster.

We all agree that background compression is a good thing. DCF/2 1.4 supports in-line compression, background compression, and all shades in-between. The review also reported that DCF/2 virtual drives cannot be used while they are being optimized. This leads us to wonder which DCF/2 version was actually used for the test, because another improvement introduced with v1.4 was the ability to perform run-time optimization without having to remove virtual drives from service while they are optimized. The optimization process can be automatic or scheduled. DCF/2 1.4 also has many well-documented tuning options that can be employed to great benefit by the user.

One area where we completely agree with the review was the need to improve DCF/2's user-interface. Version 2.0 of DCF/2 will include full support in the Workplace Shell for all DCF/2 functions, and will move the tuning options directly to the container, so that DCF/2 can be easily optimized on a container-by-container basis.

Our customers are free to contact us for technical assistance at any time, although we heartily disagree that DCF/2 1.4 requires anything remotely resembling constant maintenance.

Noel J. Bergman
Development Technologies Inc.

The suitcase and file cabinet scenarios indeed depict two completely different ways of using disk-compression software. Our product evaluation concentrated on the former, and thus may not have properly reflected the way DCF/2 and Stacker are used by some of their customers. Next time we evaluate this software category, we'll take care to broaden our testing accordingly, and to better document the methodologies we used for performance benchmarking.

—Alan Zeichick

Errata

The Web Explorer parameters in Tip #65 of *103 Tricks and Tips* (September, p.37) should have been **-q** and **-t x**, respectively.

In the October 1995 issue (p.29), PMMail 1.1 was listed with the wrong name for the CompuServe OS2Share Library 1. The correction is *pmml11.zip*.

Bugs and Upgrades

A VARIETY OF OS/2-RELATED INFORMATION. BY ALEXANDER ANTONIADES

Pentium motherboard bugs bite OS/2

Two buggy Intel chips, the RZ 1000 IDE controller and CMD 640 chip, part of the EIDE (Enhanced IDE) subsystem included on many Pentium PCI bus motherboards (including Intel's own Premiere and Plato), can potentially have disastrous effects on machines with IDE drives running OS/2. These motherboards can misinterpret data on reads and writes that can, in turn, damage data sent to any IDE device. It should be noted that later Intel motherboards, such as those that use the Triton chipset, do not have this problem.

These bugs are related to the use of PIO interface when the IDE read-ahead mode is turned on. PIO is used by OS/2, Windows NT 3.1, and Linux to access IDE devices. Other operating systems, such as DOS, Windows 95, and Windows NT 3.5+ are unaffected by this bug because they use different routines to read and write data.

There are a couple of ways to find out if you have one of these chips. You can modify your *config.sys* by adding the **/V** parameter to the **BASEDEV=IBM1S506.ADD** line so that it reads: **BASEDEV=IBM1S506.ADD /V**. After you have made this change, watch your system at boot up. If the third line of disk information reads: **PCI Rev: 02.00 RZ1000 PCI to IDE IC, Rev: 0x01 VID:0x1000 DID:0x1042**, you have the RZ1000 chip. Conversely, if there is a line in your *config.sys* that reads **BASEDEV=CMD640X.ADD**, then add the **/V** parameter and watch the same third line of disk information for **PCI Rev: 02.00 CMD640 PCI to IDE IC, Rev: 0x01 VID:0x1095 DID:0x0640** to see if you have the CMD640 chip.

If you have access to the Internet and a DOS boot disk, you can make this process even easier by downloading a program, which is available free of charge from Intel, called *ctrltest.exe*. The simplest way to run this program is to boot off a DOS floppy and run the program from there, as it requires real DOS without a memory extender to run. This program will tell you whether you have one or both chips. The program is available as *RZ1000.exe* from the */pub/RZ1000* directory at *ftp.intel.com* or on the World Wide Web at *http://www.intel.com/procs/support/RZ1000/RZ1000.exe*.

If you determined that you have one of the problem chips, get the fix from IBM. While the fix is included in the recently released FixPak 10, it is more readily available as *pj19409.zip*. This file can be downloaded from all official IBM support areas, such as the OS/2 Support Forum on CompuServe and the */pub/os2/os2fixes* directory at *software.watson.ibm.com*. Simply unzip this file into a temporary directory and run the update program; updated versions of the IDE drivers that compensate for the faulty chips will be added to your system.

One can't help but conclude that if IBM had a better relationship with Intel, OS/2 users wouldn't be subjected to these problems. After all, this isn't OS/2 Warp's first run-in with Intel architecture. When OS/2 Warp 3.0 was late in the beta-stage, IBM system architects claimed that they found an exception with one of Intel's backward compatibility issues, such that OS/2 Warp 3.0 wouldn't run on

OS/2 Top 15 List — September 1995

Rank	Product	Company
1	OS/2 Warp Connect with Win-OS/2	IBM
2	Partition Magic	PowerQuest
3	OS/2 Warp Connect without Win-OS/2	IBM
4	Voyager CD	DeScribe
5	Impos/2	Compart
6	NetView DM/2 2.1	IBM
7	BackMaster 1.1a	MSR Development
8	GammaTech Utilities 3.0	SofTouch Systems
9	Performance Plus 3.0	Clear & Simple
10	AntiVirus	IBM
11	UniMaint	SofTouch Systems
12	PC DOS 6.3	IBM
13	VisualAge C++ 3.0 upgrade	IBM
14	FaxWorks Pro 2.0 upgrade	Global Village
15	Communication Manager/2	IBM

Best-Seller Information courtesy of Indelible Blue.

Table 1: OS/2 support service locations.

CompuServe	OS/2 Support Forum (GO OS2SUPP; File Library; IBM Files)
Prodigy	OS/2 Club (Jump: OS/2; Download Library; Browse Files from IBM; IBM Files; Fixes)
America Online	OS/2 Forum (Keyword: OS2; Software Libraries; Patches/Fixes)
IBM PC Company BBS	Call (919) 517-0001; Search for Files (F); Search string "FixPak"; Download (D)
OS/2 Shareware BBS	Call 703-385-4325; File Areas (F); Locate (L); Search string "FixPak"

the Pentium. Subsequently, OS/2 Warp 3.0 was written around the Pentium code, but it's funny how some things never change.

For more technical information about this problem, contact Intel at their fax-back service number, (800) 628-2283 in North America or +(44) 793 496646 abroad, and order documents # 8451 and #8452. You can also send e-mail to Intel tech support via the internet at *support@cs.intel.com* or call (800) 628-8686 and select options 1,3, and 1.

FixPak 10 released

In their own discreet fashion, IBM has quietly released another collection of bug fixes for OS/2 Warp 3.0, called FixPak 10. This fix is available for all versions of OS/2 Warp 3.0 and doesn't require installation of any of the previous fixes.

See Table 1 for places to find this update to OS/2 Warp 3.0 and either follow the directions in the *readme* file or see *Information Center* in the October issue: "A Quick Fix on FixPaks" (p.63).

Head of OS/2 division moves on

As the reshuffling of IBM executives continues, Lee Reiswig, head of IBM's Personal Software Division, has moved on to another post within IBM. On September 7, 1995, Mr. Reiswig, who worked on OS/2 since 1985 and headed the division since it's inception in 1990, took another position at IBM — the newly created post of General Manager of Technical Strategy.

At IBM, promotions aren't always what they seem. Executives are sometimes promoted to be moved out of the way. It's hard to say whether Mr. Reiswig's new position is an actual promotion or a disguised demotion; but one thing is clear, his direct involvement with OS/2 will be considerably diminished in his new position.

John W. Thompson, former general manager of marketing and solution developer programs for the Software group, will take his place. (Note this is John **W.** Thompson, not John **M.** Thompson, who is the head of IBM's entire Software group.)

While it's too early to gauge the

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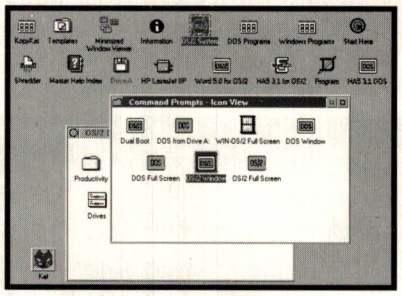
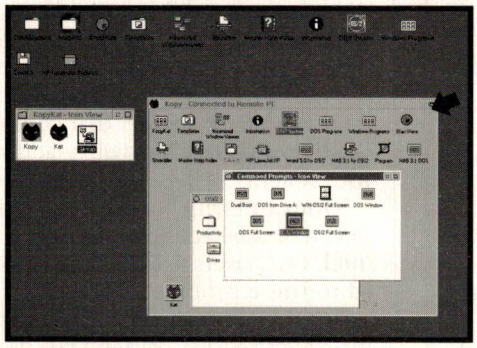
- Microsoft Windows or Windows programs, "seamless" or full-screen
- DOS command sessions or programs, windowed or full-screen



Remotely controlled OS/2 PCs are password-protected for attended or unattended access.



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Reader Service No. 7

impact this executive shift will have on OS/2, one obvious difference between the two is already apparent — Mr. Reiswig started out as a programmer while Thompson started out in marketing. Though the implications seem clear, the results won't become apparent until Mr. Thompson settles into his new job, replaces Reiswig's staff with his, and starts issuing orders.

OS/2 Warp Server prepares for launch

With the initial beta of OS/2 Warp Server, IBM is embarking on a quest to reestablish OS/2's prowess as an application and network server. This new incarnation of IBM's Intel-based server offers LAN Server, which runs on top of OS/2 and is meant to take on Microsoft's Windows NT Advanced Server.

IBM is making aggressive actions to make sure that OS/2 Warp Server gets noticed. First, more than 12,000 betas of OS/2 Warp Server were distributed in early September, making it one of the Personal Software Products' division's larger beta drops. Next, IBM introduced a LAN Server certification program that allows Novell Certified Engineers to take an abbreviated version of the test to earn LAN Server Certification credentials. Finally, there was the introduction of a Windows 95 client to integrate OS/2 Warp Server into decidedly non-OS/2 environments.

As for features, OS/2 Warp Server is boasting a number of new bells and whistles. IBM rewrote their Safe 'n Sound backup program with a slick new interface to go along with the graphical administration utilities that were part of LAN Server 4.0. In addition, a new printing functionality has been added that can send postscript jobs to non-postscript printers as well as the driver necessary to interface to high-speed printers.

At press time, pricing had not been set, OS/2 WarpServer is due out in the first quarter of 1996.

IBM releases AttachPak

At the end of September, IBM released the AttachPak for OS/2 Warp Connect, a collection of client-server applications to complement the new release.

This collection of utilities is a clearing house of networking and host connectivity tools, some old and some new, designed to whet the appetite of IS managers. Not surprisingly, one is Lotus Notes Desktop, a run-time client that can run Notes applications and includes 25 application templates. Next is Personal Communications/3270 for OS/2 Entry Level, a host connectivity tool. Also included is Communications Manager/2 SNA Application Environment, which allows OS/2 to exchange data with systems using APPC (Advanced Program-to-Program Control) and Mobile File Sync, a utility that synchronizes local files with network files after disconnection. Other programs include System Performance Monitor/2, a DCE (Distributed Computing Environment) client and Any Sockets for OS/2, a utility that allows sockets applications to run over multiple transport protocols.

The AttachPak retails for $209. Call (800) 342-6672 or your local IBM representative.

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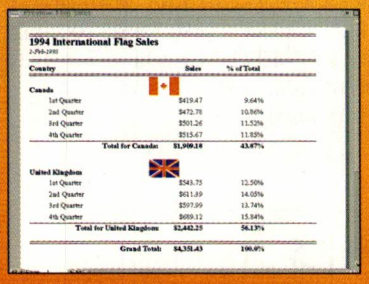

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Just Announced

Late-Breaking Developments in the World of OS/2

PC Board 15.22 for OS/2

New OS/2 BBS

Clark Development Co. is announcing the first OS/2 release of their bulletin board software. PC Board 15.22 features automatic installation, shared secret logins, PCB mail, and a choice of which nodes to run and which nodes to hide. Prices start at $229 for a two-node license, with a $39 upgrade from the DOS version. Contact (800) 356-1686, (801) 261-1686, fax (801) 261-8987, or e-mail *sales@clarkdev.com*

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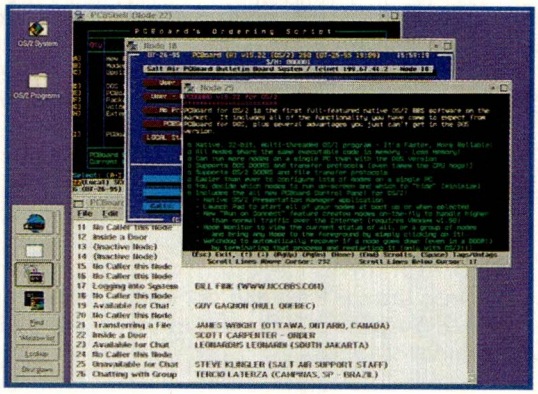


SkyAgent 1.0

New pager software

SofTouch Systems Inc. announces a new computer-based paging system for OS/2. Using TCP/IP SNMP and an SNMP agent, SkyAgent allows any SNMP-ready host on a network to send one or more messages to one or more paging devices with a single SNMP command. Contact SofTouch at (800) 944-3028, (405) 947-8085, fax (405) 632-6537, or e-mail *72274.3102@compuserve.com.*

READER SERVICE NO. 152

Meeting Maker XP 3.1

Cross-platform group scheduling

On Technology announces the Meeting Maker group scheduling client and server. Using either the MAPI (Microsoft's Mail API) or Meeting Maker's own proprietary communication protocol, Meeting Maker can resolve schedule conflicts and confirm meetings with other Meeting Maker users, within the same workgroup. Also available on DOS, Windows, Windows 95, Macintosh, HP, and Sun UNIX, this software supports TCP/IP, IPX, AppleTalk, and NetBIOS network protocols. The server is priced at $249 and clients are available for $99 per machine in quantities of less than 50. Contact On Technology at (800) 767-6683, (617) 374-1400, fax (617) 374-1433, or e-mail *info@on.com.*

READER SERVICE NO. 153

Back Master 2.0

Floppy-to-SCSI backup support

MSR Development is releasing BackMaster 2.0, a native OS/2 backup program. This release supports SCSI tape drives, including those made by Hewlett Packard, Colorado, Tandberg, in the Travan QICWide, QIC, DAT, and QIC minicartridge. Other improvements include multi-tape backup from the main interface, a speed increase, custom file selection across multiple drives, and expanded on-line help. BackMaster 2.0 is priced at $89.95, and upgrades from 1.1 are available for $24.95. Contact MSR development at (409) 564-1862, fax (409) 560-5868, or e-mail *msr@msrdev.com.*

READER SERVICE NO. 154

VX-REXX Object Development Kit 2.1

Build VX-REXX add-ons

Powersoft's Watcom Products Division is releasing a new development tool to extend the functionality of their VX-REXX visual REXX program. Using SOM-compliant C in the Object Development Kit, developers can create add-ons for creating new objects and enhancing existing ones. The VX-REXX Object Development Kit retails for $199 and requires a C compiler, the OS/2 2.1 Toolkit, and Watcom VX-REXX 2.1. Contact Watcom at (800) 265-4555, (519) 886-3700, fax (519) 747-4971, or via e-mail at *sales@watcom.com.*

READER SERVICE NO. 155

Eagle 3.5

New circuit board designer

CADSoft Computer Inc. announces Eagle, a printed circuit board design package. Eagle is a Presentation Manager program that features an autorouter and CAM processor that runs in the background. It allows the renumbering of parts on a board at any time and features programmable output interface that can export most data that the program creates. Eagle 3.5 for OS/2 is available for $1,197. Contact CADSoft Computer Inc. at

Just Announced

(800) 274-8355, (407) 274-8355, fax (407) 274-8218, or via the internet at *eagle@csciusa.mhs .compuserve.com.*
READER SERVICE NO. 156

Batch Manager 3.0

Update to OS/2 scheduler

M. Bryce & Associates Inc. is announcing Batch Manager 3.0, a utility for scheduling, executing, monitoring, and controlling OS/2 or DOS programs. New features include a multiple queue approach that allows both serial and concurrent execution of jobs, new controls to hold and release job queues, drag-and-drop job submission, on-line display of job log that shows date and time of job execution with completion or error codes, and job priority settings for program processing. Batch Manager 3.1 is priced at $150. Upgrades are available for $30. Contact M. Bryce & Associates at (813) 786-4567, fax (813) 786-4765, or e-mail *TimB1557@aol.com.*
READER SERVICE NO. 157

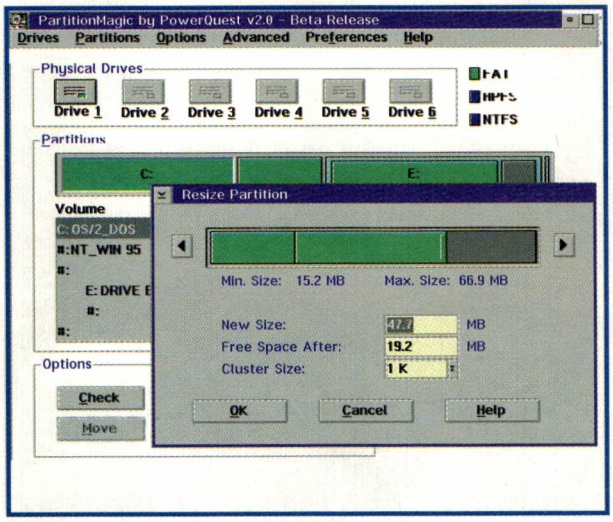
VisPro/REXX 3.0, VisPro/C 3.0, and VisPro/C++ 3.0

Visual programming update

HockWare Inc. is updating its visual programming tools. All of the tools, except the Bronze Edition, include a built-in visual entity/relationship database designer for ODBC databases and VisPro Team Administrator, which features other version control and team management. VisPro/REXX Bronze 3.0 is $59. VisPro/REXX Gold 3.0, VisPro/C and VisPro/C++ are $299 each. Upgrades are $99. The VisPro Development Suite is $499. Contact HockWare at (919) 380-0616, fax (919) 380-0757, or e-mail *hockware@vnet.net.*
READER SERVICE NO 158.

Partition Magic 2.0

More control of your hard drive



PowerQuest is announcing an update to their hard drive partitioning utility. Partition Magic 2.0 allows the resizing of clusters in a FAT partition, so that a single file that takes up 32K on a 1GB drive will now only take up as little as 2K. This release also provides customized versions of the **fdisk** and **format** commands, independent of those used by the operating system. Partition Magic 2.0 for DOS and OS/2 is priced at $69.95. Upgrades from version 1.0 are $29.95. Contact PowerQuest Corp. at (800) 379-2566, (801) 226-8977, fax (801) 226-8941, or e-mail *magic@powerquest.com.*
READER SERVICE NO. 159

Hot New Web Pages to Check Out!

Gary Hammer's list of essential OS/2 utilities and sites

OS/2 Must Have Utilities and FTP Sites.
http://www.teamos2.org/software/must_have/1index.html

The Ultimate OS/2 Gaming Page

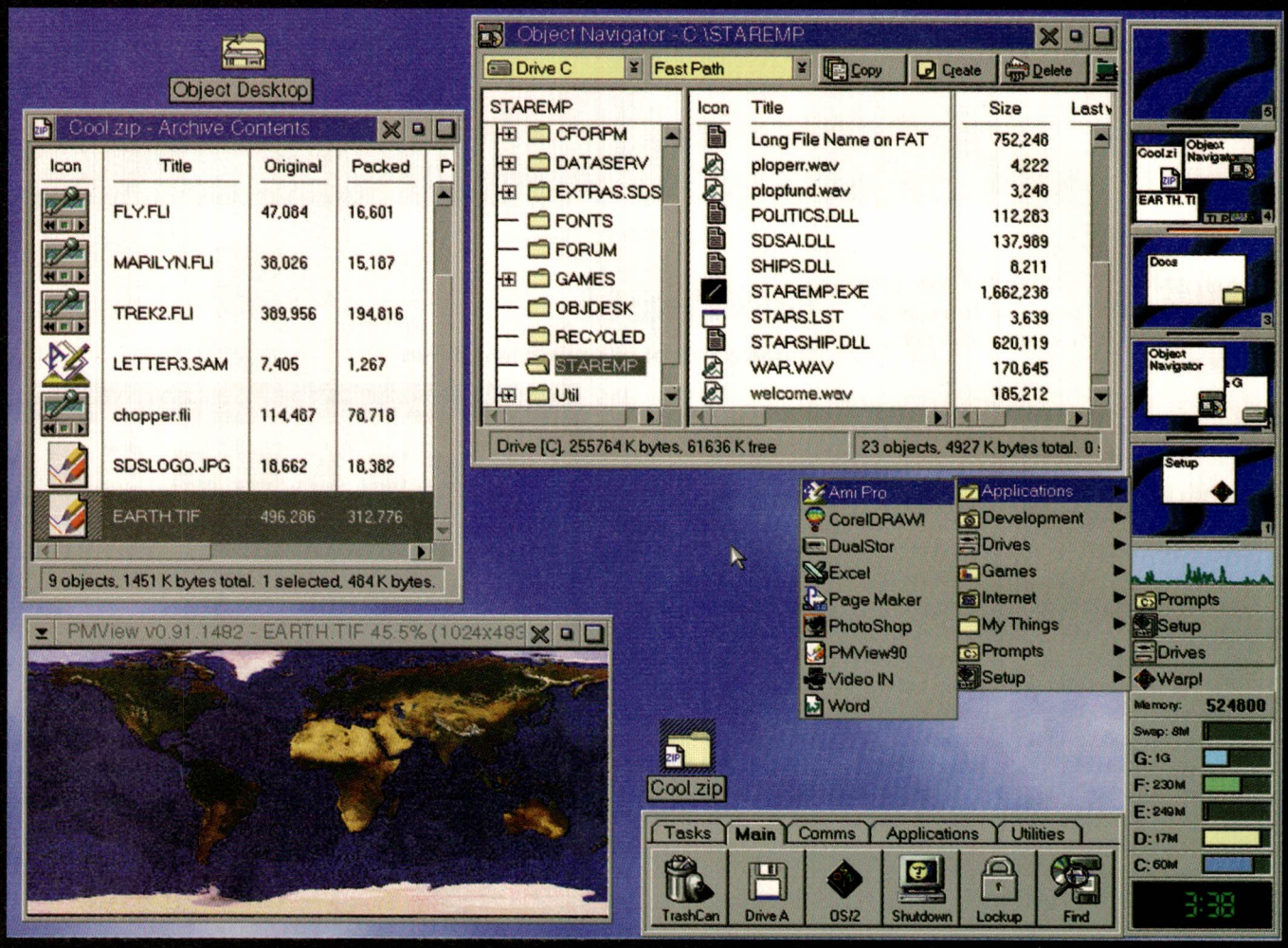
This sight lists all of the major games coming to OS/2.
http://www.cc.gatech.edu/people/home/buie/os2games.html

The OS/2 Entertainment Development Council

This group of net denizens is working to encourage OS/2 game development.
http://naftalab.bus.utexas.edu/os2games/

OS/2 Information Center's WebExplorer Animations

This repository of cool animations will make you glad you use the Web Explorer.
http://www.os2forum.or.at/TeamOS2/English/Special/Animations/

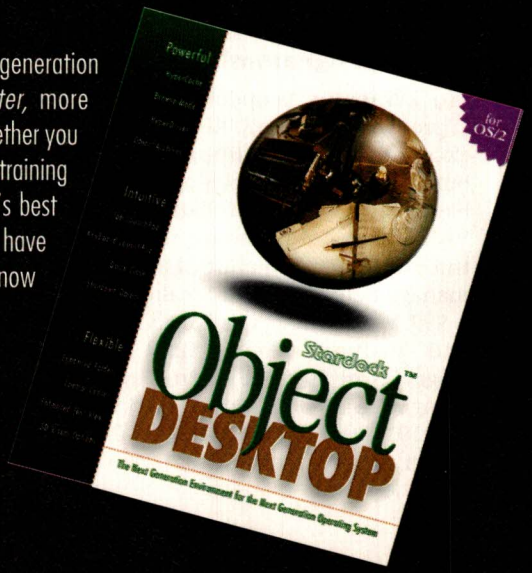


ONE PICTURE IS WORTH A THOUSAND WORDS.

"No one who sees it will want to do without it." - Nicholas Petreley, InfoWorld

for OS/2

Object Desktop turbo-charges OS/2. It is the next-generation desktop environment that makes your OS/2 system *faster,* more *powerful, easier* to use, and well, just plain *nicer* to look at. Whether you are an IS manager looking to increase productivity and reduce training costs, or an end user looking to get the most out of the world's best 32-bit PC operating system, Object Desktop is a must-have. If you have OS/2, you should have Object Desktop. If you don't have OS/2, now there's an exciting new reason to *upgrade* to it.



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Reader Service No. 9

As Goes OS/2, So Goes IBM

IBM MIGHT NOT LIKE INVESTING HEAVILY IN OS/2, BUT IT DOESN'T HAVE A CHOICE. BY WILL F. ZACHMANN

The statement, "OS/2 is not dropped, scrapped, or dead." made by Steve Ballmer, then Microsoft senior VP (now executive VP), taken from his talk at the Microsoft Systems Strategy Seminar in January 1991, is just as true today as it was then. It is, however, equally true now that OS/2 hasn't exactly conquered the universe. Despite modest gains over the past five years, OS/2 remains an operating system in the minority, with only single-digit market share.

Five years ago, when Microsoft walked away from OS/2 and from its partnership with IBM, I was one of a very few industry analysts who did not presuppose that this action spelled doom for OS/2. I felt that OS/2 would not only remain a viable option, but that it had a reasonable chance not only to succeed, but even to prevail in the end.

Today, my view remains the same. Even though OS/2 has not yet achieved more than limited acceptance, and Microsoft's Windows continues to enjoy dominant market share as the de facto industry standard desktop operating system, I continue to expect that OS/2 will ultimately prove to be a very successful operating system with at least substantially greater market share than it has yet attained. Why? Because I am convinced that IBM's future depends upon the success of OS/2. I believe that if OS/2 were to fail, IBM would fail as well.

The crucial competitive struggles being fought throughout the industry during the 1990s are not fundamentally concerned with individual products, so much as they are with standard platforms. The long-term winners will be those who can create and control the standard platforms, hardware, and software, as well as communications, upon which the information industry can build individual products for the future.

None of the higher level platform initiatives can stand on their own if the baseline initiatives with OS/2 and PowerPC fail.

Prior to the 1981 introduction of the IBM Personal Computer, platforms were defined by the proprietary mainframe and minicomputer architectures and operating systems of individual vendors. IBM, with a market share of 70% or more throughout the late 1960s and 1970s, effectively dominated the industry.

The personal computer explosion of the 1980s shifted the focal point of industry platform wars from traditional mainframe and minicomputer systems to the desktop. The very success of the IBM PC created what are, to date, the two competitors that have been most successful in seizing the platform initiative from IBM: Intel and Microsoft.

Both were able to become the dominant companies they are today only because they were chosen by IBM, at the start of the 1980s, to provide the key hardware and software platform architectures beneath the IBM PC: the Intel x86 microprocessor architecture and MS-DOS. Both have successfully leveraged that initial advantage into a dominant industry position based on successor products to the original Intel 8086 and MS-DOS. In so doing they have gained, at least for the present, the dominant position in the industry that IBM held prior to the 1980s.

The only way IBM will ever regain industry leadership is if it can recapture the platform initiative that IBM management foolishly let slip away over the course of the last decade. Failure to do so will condemn IBM to ultimately become one more supplier building products based on platforms defined and controlled by others; others who reap the financial rewards of such intellectual property rights.

OS/2 and the PowerPC microprocessor are IBM's two key strategic thrusts to regain that control from Microsoft and Intel, respectively. All other aspects of IBM's efforts along those lines, including OpenDoc, SOM/DSOM, Lotus Notes, and so on, are ultimately tied to the success (or failure) of IBM's efforts to wrest control of the underlying microprocessor platform from Intel, and the operating system platform from Microsoft. None of the higher level platform initiatives can stand on their own if the baseline initiatives with OS/2 and PowerPC fail.

That's why all the talk about how much IBM has already spent on OS/2 or how little contribution OS/2 has made

to IBM's profitability so far is quite beside the point. The same goes for the PowerPC. No matter what it costs, IBM must spend whatever is necessary to make OS/2 and the PowerPC successful.

Of course, it isn't sufficient for IBM to merely succeed with OS/2 and the PowerPC processor. To be successful in the long run, three other elements are also necessary. First, IBM management must clearly understand the objective need. Second, IBM must have the ability to make OS/2 and the PowerPC successful and the will to do what it takes. Finally, IBM's rivals, Intel and Microsoft, must have sufficient vulnerabilities to provide the necessary opportunity.

IBM's biggest problem, until recently, has been that their management structure has not fully understood the need for specific goals and objectives. John Akers' tenure was marked by a fundamental failure to fully grasp the importance of winning the platform wars. The early years of Lou Gerstner's regime were taken up with backing and filling while he learned the ropes. Now, however, I think it is clear that Mr. Gerstner has seen how important success for OS/2 and the PowerPC are to IBM's longer term viability and he is finally getting IBM, as a whole, behind those products.

IBM has a long way to go to overcome the build-up of decades of bureaucratic fat, a general failure to fully comprehend just how different the world of microprocessor-based systems is from that of the traditional computer business, the divisiveness of ownership of individual products by individual divisions, mediocre press and public relations, downright amateur advertising and marketing, and so on. Nevertheless, substantial progress has already been made and more is on the way. Mr. Gerstner cannot turn the battleship on a dime, but it has already come around considerably toward a new and more successful course.

Best of all for IBM, particularly with regard to OS/2, Microsoft's overconfidence and insufficient fit and finish work on Windows 95 have given IBM an excellent opportunity at precisely the right time. By rushing Windows 95 out the door, Microsoft has allowed IBM to strike back hard with an operating system that has done well for years what Windows 95 still doesn't deliver.

Although this will be my last monthly column for *OS/2 Magazine*, it is still only the beginning for OS/2. Don't forget that it took Windows more than eight years from when it was first announced, early in 1983 until early 1991, before it really hit its stride. It has been approximately that long since OS/2 was first announced in April 1987. OS/2's time is now at hand. As OS/2 for the PowerPC becomes available in 1996, and as users continue to struggle with Microsoft's so-called improved Windows 95, look for solid gains for OS/2 in the year ahead!

Will Zachmann, a well-known computer-industry analyst, is the founder and president of Canopus Research, based in Duxbury, Mass. He is also a former vice-president for corporate research of International Data Corp. You can reach him on CompuServe at 76004,3657, or on his popular CANOPUS forum.

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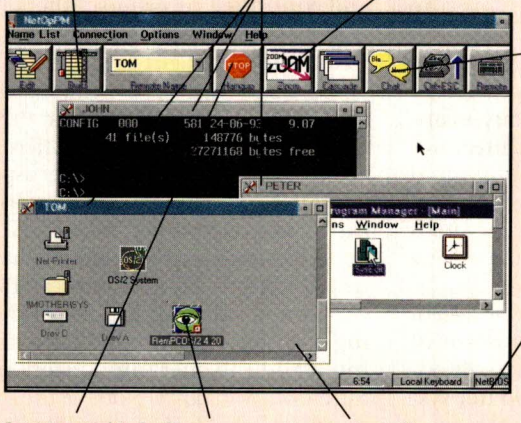

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MARKHAM COMPUTER CORPORATION

Reader Service No. 10

Slick Pascal Relief

SPEED-PASCAL/2, VISUAL SLICKEDIT 1.72, AND STRAIN RELIEF FOR WINDOWS. BY BRIAN PROFFIT

Speed-Pascal/2 1.0

One of the largest blocks of reader mail I have ever received was the result of a teasing reference to Turbo Pascal for OS/2, which appeared in our April Fool's issue this year. Reactions varied from "don't even tease about something like that" to "oh please, tell me it's true!" Sadly, it wasn't true, but at long last a worthy product has stepped into the breach.

Full 32-bit PM programming power

SpeedSoft's Speed-Pascal/2 (SP2) is not just a character-based bone tossed to Pascal lovers, it is a Presentation Manager product — from the integrated development environment (IDE) you use to develop your programs to the completely graphical applications you can create. You have full access to the OS/2 Application Program Interface (API), using the **cdecl** keyword to map Pascal calls to OS/2's C dynamic link libraries.

Those who haven't used Pascal for a few years might be surprised to hear that it is now an object-oriented language with *de facto* standards for the OO extensions. Borland Pascal users will be delighted to see that SpeedSoft followed those standards, and SP2 uses the same constructor, destructor, object, and virtual keywords.

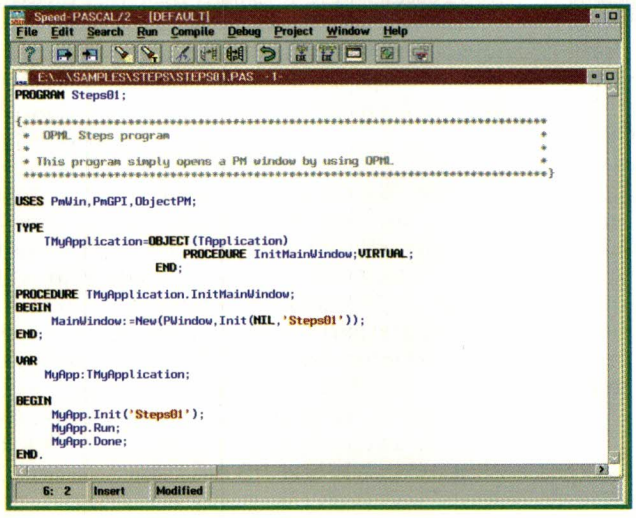
Even better, SpeedSoft took into account Borland's Object Windows Library (OWL), which makes development so much simpler, and provided an Object Presentation Manager Library (OPML) that offers the same ability to develop object-oriented graphical programs far more easily than through the OS/2 API. Those familiar with OWL will find themselves immediately at home in the OPML environment.

A comfortable IDE

The IDE is very straightforward, although CUA and WordStar are the only keyboard emulations. Those devoted to some other editor's key combinations are free to do their main code development with that and switch to the IDE for testing and debugging. If you prefer, you can also use SP2 strictly as a command-line compiler, but you'll lose many of this product's benefits.

Color coding of the source code, based on keywords, is automatic within the IDE. You can select from SP2's color scheme, the colors used by Turbo Pascal for DOS, Turbo Pascal for Windows, or you can define your own colors.

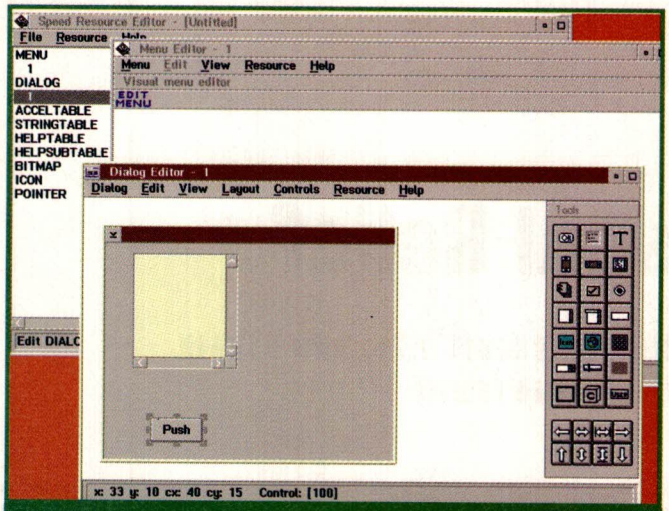
SP2 makes good use of pop-up menus with typical editing functions, plus search-and-replace, compile/make, and breakpoint commands that are a single right-click away. More impressive is the context-sensitive keyword help. The pop-up menu has an entry called Topic Search that searches through all of the on-line help for an entry that matches the keyword at the current cursor location. The help entries include a description of the keyword and typically show examples of its usage and hyperlinks to related keywords. The on-line documentation includes the complete set of OS/2 APIs, with examples of their usage in an SP2 program.



However, I was disappointed that I couldn't drop Font Palette entries onto the IDE (I don't believe vendors should decide for me which font I want to use in my text-editor window). And, although a page in the Setting Notebook allows you to select between big and small type, it doesn't cut it. I like to be able to see as much of my program in a window as my aged eyes can resolve. Their definition of small didn't allow nearly as many lines to be visible as I would have liked.

I was also surprised that

SP2 didn't support keyword completion. As you can see in this month's review of Visual SlickEdit, developer's editors typically will try to complete language-specific keywords for you. For example, I would have expected to enter **pr** and press the space bar, and have SP2 complete the keyword **procedure** and insert lines underneath with indented begin and end statements. Because SP2 is devoted to Pascal, it's job would be much easier than editors that must support several languages.



Resource editing capabilities are built-in with Speed Pascal/2 1.0

SP2 supports embedded assembly code and includes an assembler to merge those instructions with your Pascal source. SP2 also includes a resource compiler for elements such as dialog boxes and menus, so the OS/2 Toolkit isn't necessary to build graphical applications.

Because your application might include those resource instructions along with your Pascal source (and potentially other source files) with its own complete set of options and directories, SP2 supports grouping all those pieces together into a project. You don't need a *make* file, because the Pascal compiler will search for resource and assembler statements in the program and automatically run the files named there through the Resource Compiler or Assembler.

SpeedSoft brings power to creation of those resource files as well. The Resource Editor simplifies creation of the graphical elements of your program and brings those elements together into a resource file. The Resource Editor integrates with OS/2's Icon Editor for creation of bitmaps, icons, and pointers, or you can import graphics created separately. A Menu Editor and a Dialog Editor are included in the Resource Editor. Unlike some low-end products, SP2 allows you to assign a name to your resources rather than being forced to refer to them by OS/2's meaningless four-digit numbers.

Smooth startup

Newcomers will find SP2 an easy product to get started with. If you're completely new to programming, Pascal was designed specifically to be an easily learned language. If you've used Pascal, but not in a graphical environment, an excellent tutorial for /the OPML library and its usage guides the user, one step at a time, into development of full PM programs. If you use Borland Pascal, the differences are clearly marked in the manual and summarized in an appendix. The differences will mostly affect those who make widespread use of the ***real*** (different) and ***comp*** (not supported) datatypes.

Glee or flee

Speed-Pascal/2 doesn't have the blinding speed that has been the hallmark of Turbo Pascal, but it does offer nearly everything else. There have been numerous other attempts at Pascal for OS/2, but this is the first such product that I can recommend.

Visual SlickEdit 1.72

Designed and developed by some of the people who, in their IBM Yorktown Research Center days, created the original IBM-internal E editor, its EPM counterpart (now the OS/2 Enhanced Editor), Slick, and SlickEdit, Visual SlickEdit (VSE) benefits from those years of experience by offering incredible levels of power, usability, and maturity. While it's true that reviews of editors invariably bring plenty of hate mail from developers, fervently attached to their favorite product, VSE is simply a product too good to ignore.

A veritable plethora of developer's aids

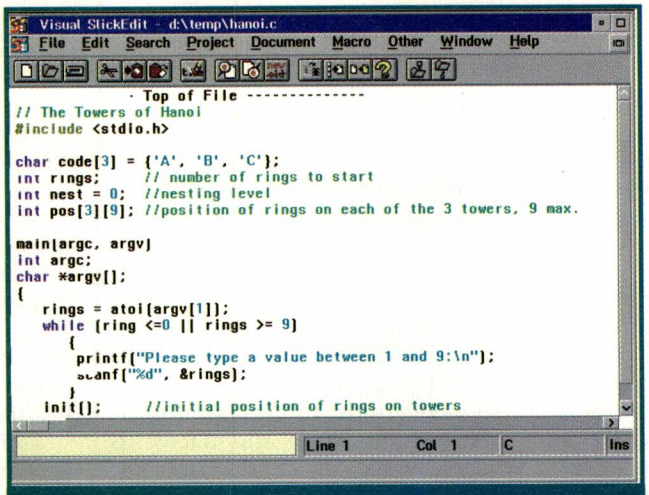
While perfectly capable of working on a single-file basis, VSE is at its best when working with multi-file projects. Each project can include project files (source and resources), a working directory, include directories, tag files (with information about the location of each procedure in the project), the **compile** command, the **make** command, the **debug** command, the **execution** command, and two other commands, which the user can define as needed. Default information is included for Borland C++, IBM C Set++, and Watcom C++. You can also define commands for other environments and launch any command-line program from within the editor. VSE includes an interface to check projects in and out of Intersolv's PVCS, One Tree's Source Safe, or Burton Software's TLIB version control systems.

Most of us don't like to debug code more than once. Consequently, it is extremely common to copy instructions from a working program to a program in progress. Unfortunately, if the code is pasted into an existing fragment, it is often at a different nesting level and thus does not properly align vertically. A neat feature, called SmartPaste, allows VSE to automatically change the indentation of the pasted code to the correct nesting level, at the point of insertion.

Automatic syntax expansion is performed based on language keywords. For example, in C mode, if you type **do**, VSE automatically adds opening and closing curly braces, indented to show the proper nesting. It also adds a **while** clause. You don't even need to type in the entire keyword for expansion to take place. If you type **f** and press the space bar, VSE assumes you want the **for** keyword, it inserts the parentheses in which you put the

expression and the curly braces for the block to be executed while the expression is true. VSE also performs automatic syntax-sensitive indenting when it detects the beginning of a new structure. For example, if a line ends with an opening curly brace and you press Enter, VSE will automatically indent the next line.

VSE changes the color of the source when it detects specific items, such as keywords, comments, and literal strings. You can also instruct VSE to use a different color to indicate which lines have been modified or inserted. Naturally, the colors used can be customized to your taste. By the way, much of VSE's customization information is stored in ASCII text files rather than binary *.ini* files. I know this action isn't standard for OS/2, but that's fine because I still prefer to modify those files with a plain text editor.



Indenting and color highlighting take place automatically with VSE.

Delimiter matching is automatic. When you enter a closing delimiter, such as),], or } (depending on the source language), VSE searches for the opening delimiter and briefly highlights the section just ended. If no matching delimiter is found, VSE displays a warning message in the status line. You can also force a matching delimiter check at any time, and the cursor will move from the delimiter that is pointed to, to its matching partner. This even works for **#if/#endif** pairs, and you can define other paired delimiters to be matched.

Support for these syntax-specific functions is included for C/C++ (and their Slick-C macro language), Pascal, assembly, Ada, FORTRAN, COBOL, Modula-2, and dBASE. It does seem hard to believe, though, that Modula-2 was a higher priority than REXX.

Procedure tagging stores the location of each procedure in your project. Depending on the language being used, other symbols can be tagged, such as global variables, #define symbols, prototypes, and other key definitions. When working on a project, days and hundreds of lines of code later you can easily look back to the definition of a tagged object simply by moving the cursor to any reference to that object and executing a simple command. That operation sets a bookmark at your current location and moves you to the location where the object is defined.

Although support for WorkFrame/2 (IBM's integrated development environment for all OS/2 development tools) is not included in the package, a patch file that updates VSE to work with WorkFrame/2 can be downloaded from MicroEdge's CompuServe support area—free of charge. It is an active forum, by the way, minor program patches and updates are regularly made available.

And other goodies too

While VSE is designed as a tool for programmers, it includes several tools for editing documents as well. In addition to left and right margins, you can specify a margin for the first line of a new paragraph. You can also specify formatting parameters, such as normal left justification or full justification (with spaces inserted so that each line aligns with the margins). In fact, a spell-checker is even included.

They say that nobody reads the documentation; perhaps that's because it is often unintelligible. Not so in this case. Multiple indexes in the reference manual make it extremely easy to move to the precise area of interest. And, while the manual is nearly 700 pages long, don't let that convince you that VSE is difficult to learn and use. More than 500 of those pages are devoted to the macro language, a semi-typeless variant of C, called Slick-C, including the approximately 1,200 macro functions.

For those who want the additional power of writing their own macros, Slick-C is the most complete language I've seen; it even includes

Windows Test: Strain Relief for Windows

While I ordinarily restrict my discussion of Win-OS/2 settings to those applications with a deep market penetration, I'm making an exception here because there are no OS/2 applications in the same market as Strain Relief, and because OS/2 users, statistically more likely to be power users, probably need this product more than Windows users!

Strain Relief is a program that sits patiently in the background, watching the clock and your work. Periodically (at time/keystroke intervals you can set), the program pops up a short series of exercises you can perform at your desk that revive the muscles of your eyes, neck, shoulders, upper and lower back, arms, and wrists. It takes approximately 10 minutes and can make a big difference in your productivity. I'm no doctor, but this program has to be good for anyone who spends a great deal of time at the computer.

Strain Relief runs fine with the default Win-OS/2 settings, but you might run into a problem where it refuses to accept the keyboard/mouse focus, if you run it in a seamless session. Running it in a full-screen Win-OS/2 session will resolve the problem. The program uses the PC speaker for all audio, so there is no conflict between it and OS/2 applications regarding the sound card.

many features of object orientation. Sure, I'd prefer it if they had used REXX, the OS/2 standard macro language, but with about 1,200 functions included for use with the language, it's hard to argue with the amount of power available. If that's not enough, you can call modules from external dynamic link libraries (DLLs) in your macros.

VSE includes a dialog editor, so you can even create dialog boxes for use within macros. Dialogs can actually be modified while they run; this function pays off the first time you write a macro with a bug in it that prevents a dialog box from closing. Dialog boxes benefit from Slick-C's object orientation. You can copy pieces from one dialog and paste them into another. This function effectively makes the pasted pieces a sub-class of the original dialog. Code changes applied to the original can be inherited by the other dialog, but I digress into the realm of developers.

Those accustomed to other interfaces will find that VSE can be reconfigured to run using standard CUA controls or accept the keystrokes of Emacs, Brief, VI, or VSE's predecessor, SlickEdit. A detailed reference card is included, which shows the key sequences that correspond to each of these modes. Another reference card shows the grep'ish regular expressions that VSE recognizes.

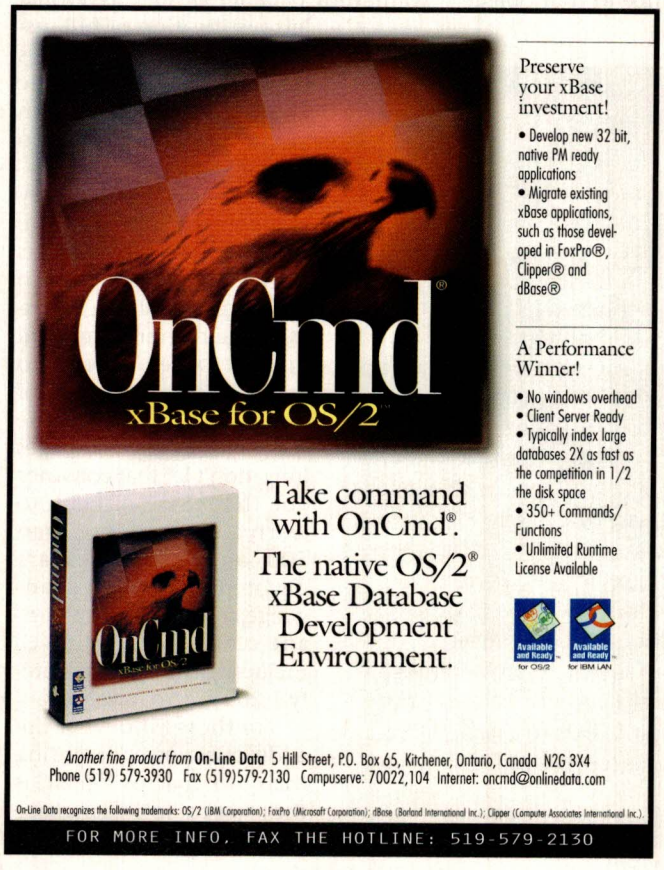
Those who prefer to memorize multifingered key sequences for their favorite tasks will be delighted to find that many VSE functions are already assigned to non-CUA hot keys. Users also have almost total flexibility in assigning commands and macros to whatever key combinations they prefer. Blocks to copy/paste can take nearly any shape, from the normal stream selection that wraps around lines, to any rectangular area. Math commands, including conversions between decimal and hex, can be performed on a column of numbers. Multiple levels of undo/redo are allowed, although they are not without limit: I suspect that the default value of 32,000 levels will meet most user's needs. The default setting of 15 separate clipboards can also be expanded.

This product is thoroughly professional with many little touches added to make life easier. One of those touches simplifies the common situation where you have files several subdirectories deep. VSE allows you to define aliases to simplify entering file locations. For example, I defined an alias to *d:\cset\src*. From then on, to locate a file, I only typed **cs**,which expanded it to the full path and added the file information. Basically, the deeper your nesting, the greater the benefit.

Unlike any other popular editors I know of, VSE's automatic completion facility doesn't only apply to file names. VSE also supports completion of procedure tags, dialog box names, projects, environment variables, command names, help items, and menu names.

Summary

When you consider all of the function within VSE, you might expect it to be a bit slow. Not so. In fact, operations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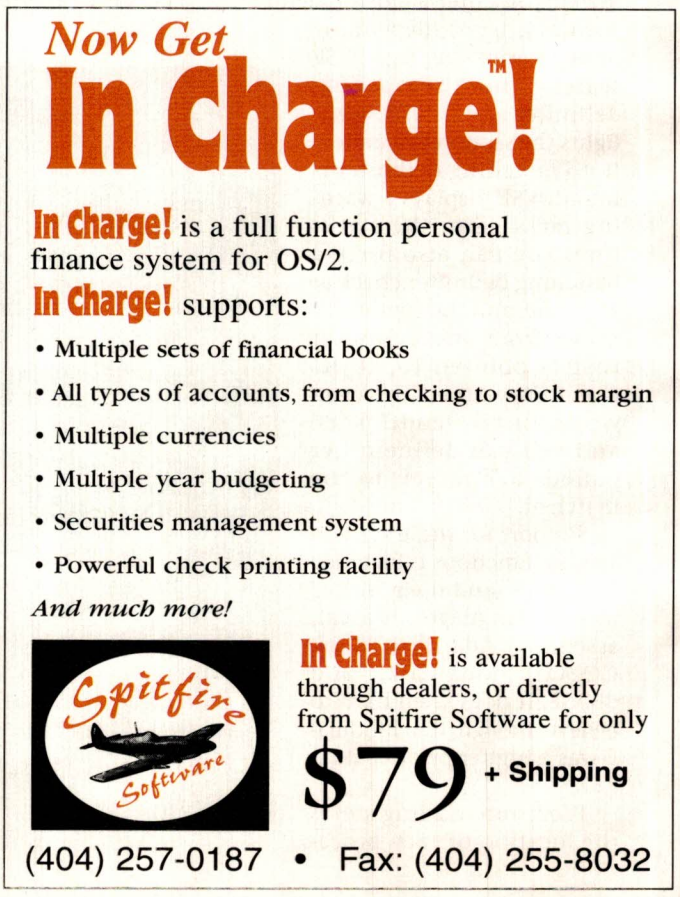
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such as initially loading a very large file are blindingly fast. VSE uses an intelligent caching algorithm that allows you to begin editing a file as soon as one screen-full of the file has been read. This makes scrolling through files incredibly quick.

MicroEdge even covered the bases for the multiplatform folks, providing identical versions for OS/2, Windows 95, and Windows NT (Intel, PowerPC, Alpha AXP, and MIPS). The editor's state file, which includes key bindings, macros, and all other customization information, is binary-compatible across the platforms, so macros created on one can be used on any other — without recompilation — even if they include graphic elements, such as dialog boxes.

Glee or flee

There is much more to Visual SlickEdit than I have space to mention. Many people don't need the power of VSE, in which case, the text editors included with OS/2 are great operating system bonuses. But, those with stronger demands, particularly developers, would be well advised to consider whether VSE might be the needed impetus to break them away from their old faithful editor.

RESOURCES

Visual SlickEdit ($219)
MicroEdge Inc.
P.O. Box 18038
Raleigh, NC 27619-8038
(800) 934-3348
(919) 831-0600
Fax: (919) 831-0101
CompuServe: *GO SLICKEDIT (section 13 of PCVENF)*
72662.3312@compuserve.com
READER SERVICE NO. 160

Speed-Pascal/2 1.0 ($129)
SpeedSoft USA
19528 Ventura Blvd., Ste. 133
Tarzana, CA 91356
(818) 887-3034
CompuServe: *70303,373 in OS2DF1 section 6*
Internet: *speedsoft@special.infox.com*
SpeedSoft Europe (for European users only, all others use SpeedSoft USA)
Rene Nürnberger
Arthur-Strobel-Str. 12
09127 Chemnitz, Germany
Fax: +(49) 371-2176173
CompuServe: *100614,306*
Internet: *speedsoft@special.infox.com*
READER SERVICE NO. 161

Strain Relief for Windows
DMG Publishing
430 Franklin Village Dr., Ste. 103
Franklin, MA 02038-9103
(508) 528-7571
Fax: (508) 528-6946
READER SERVICE NO. 162

Brian Proffitt was part of IBM's OS/2 team and left IBM to become the director of PC Week's Corporate Labs. He is now the president of Visionary Research, senior contributing editor for OS/2 Magazine, and solutions advisor to PC Magazine. Send him e-mail at 75300.1466 @compuserve.com.

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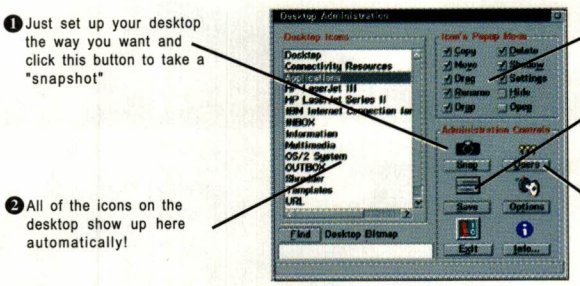
1 Just set up your desktop the way you want and click this button to take a "snapshot"
2 All of the icons on the desktop show up here automatically!
3 Set restriction options for each icon here
4 Save the desktop profile to a small disk file. All the icon restrictions and locations are stored away
5 Assign each user of your system their own desktop profile. As each user logs in with their own password, they get the desktop you assigned!

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Reader Service No. 13

Applications

As the world is deluged with announcements of applications being written for Windows 95 that will ship Real Soon Now, might be written for Windows 95 someday, or that vendors think would probably run fairly okay on Windows 95, it seems appropriate to pause and take a look at the state of office applications currently available for OS/2.

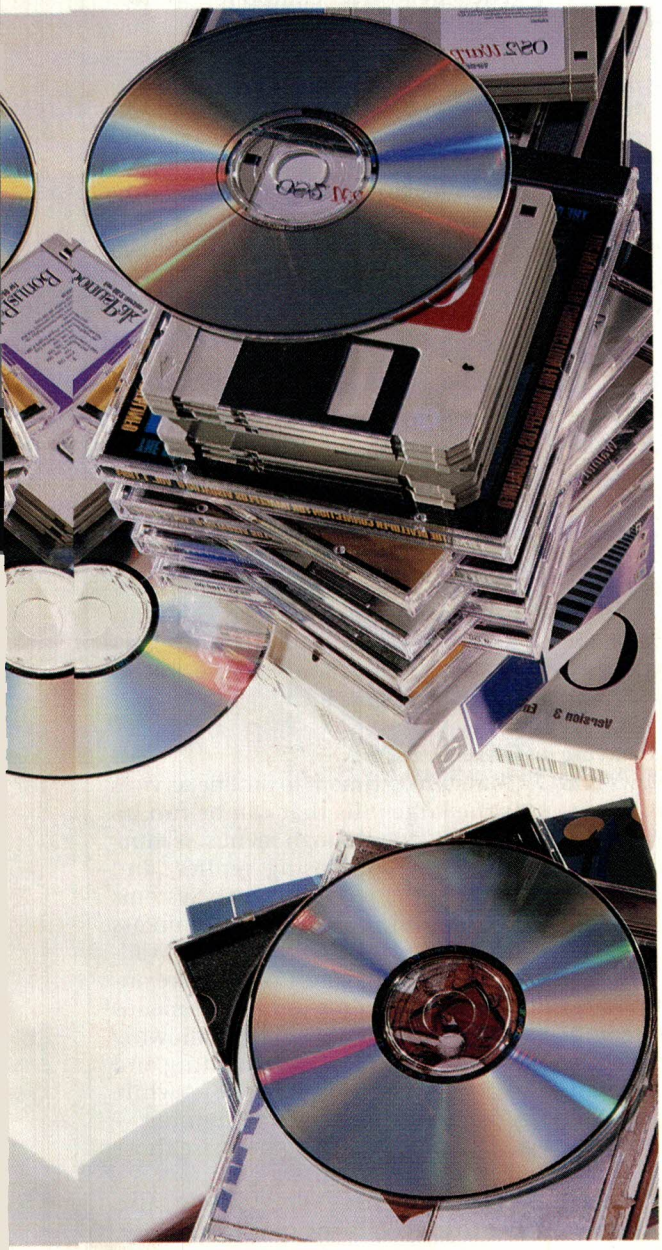
To counterbalance the oft-heard claim that "there aren't any OS/2 applications," we took a look at the most popular products available in the basic office automation categories: word processing, spreadsheet, communications, personal information management, and graphics. We also talked with many OS/2 users, asking their opinion of current office-automation products.

While the focus of our attention is on 32-bit OS/2 applications, it is worth noting that many OS/2 users don't particularly care whether an application is native to OS/2 or not. "My company has standardized on Windows applica-

BY BRIAN PROFFIT

in the Office

tions," one reader reports, "but that doesn't keep me from running OS/2. OS/2 runs the Windows applications better than Windows does, anyway, especially if I'm using more than one at a time." Still, most of us respect the power of OS/2 applications, which is what we'll discuss in this article.



Word processing

Word processing is probably the most common use for computers (well, perhaps second only to computer games). This category contains several OS/2 entries.

DeScribe

Billed by DeScribe Corp. as a "word publisher," DeScribe is a native 32-bit OS/2 application that blurs the line between word processing and desktop publishing. Desktop publishing people will applaud DeScribe's layout of documents in discrete "frames," or areas that can contain text or graphics.

In addition to being the first native graphical word processor for OS/2, DeScribe's years of experience with the OS/2 environment results in a sophisticated use of OS/2's capabilities, in contrast with applications that are poor stepchildren of Windows programs. While the antics of DeScribe Corp.'s management have occasionally overshadowed the product, DeScribe's power has earned it a very loyal following. This type of speed can only be attained by careful attention to the nuances of OS/2. As one reader put it, "DeScribe is incredibly fast and stable. It took a few weeks of use to break out of my old WordPerfect habits, but it was well worth it in the long run."

The most frequent suggestions for improvement to DeScribe were improved support for multicolored text and the ability to see the format-changing commands, such as in the Reveal Codes window offered by WordPerfect. DeScribe's latest product offering, the low-priced but unsupported Voyager CD, includes versions for OS/2 as well as 16 and 32-bit Windows. (See the November issue for reviews of DeScribe 5.0 and Voyager, p. 49.)

WordPerfect

In 1993, WordPerfect Corp. surprised users of WordPerfect 5.2 for OS/2 by announcing that the much-awaited (and nearly complete) version 6.0 for OS/2 had been dropped from their product line. Instead, they produced a set of OS/2 Integration Tools for WordPerfect 6.0 for Windows. While rumors swirl that Novell (now, the owners of WordPerfect) will produce an OS/2-based version 6.2, there's no reason for optimism. Still, many users are continuing to run version 5.2 for OS/2, or version 6.1 for Windows in a Win-OS/2 session.

WordPerfect, in one variation or another, appears to be the second most-used word processor in our survey, largely due to direct access to formatting controls and the sheer inertia of years of experience with WordPerfect. One reader even expressed that he couldn't get comfortable with anything but WordPerfect 6.0 for Windows, resource hog that it is, because it is simply the most powerful, sophisticated, and flexible word processor he'd come across — and Reveal Codes has a lot to do with that.

AmiPro

Lotus Development Corp.'s AmiPro is one of those Windows step-children. It is a reasonably complete and functional product, but its speed suffers greatly from the lack of OS/2 exploitation. Dubbed "AmiSlo" by more than one reader, the future of AmiPro for OS/2 is in question. Lotus has already announced that Lotus' SmartSuite for Windows will contain WordPro rather than AmiPro in the next version, although the change appears to be largely semantic. A Lotus spokesperson said that, "with the IBM relationship there will definitely be an OS/2 version of WordPro, and we expect it in the first quarter of 1996." They couldn't provide any details of specific OS/2 exploitation that could be expected to prevent performance problems like those found in AmiPro.

Clearlook

An interesting newcomer to this category is Clearlook. This frame-based word processor is also a native OS/2 program, resulting in the speed you would expect. Clearlook has all the features you look for in a professional word processor, including multi-lingual spelling checker and thesaurus, footnotes, mail-merge, tables of contents, and indexing, but it remains in the early stages. Some user interface anomalies exist in the current version, but Clearlook Corp. seems to be extremely responsive, and you can bet that this product will make large strides in market share over time. (Clearlook was reviewed in May, p. 22.)

IBM Works

At the lower end of the scale, the OS/2 Warp BonusPak includes IBM Works, an update to the popular Footprint Works 1.0. that includes a reasonable word processor. Before you go and spend money on a separate product, you should take the time to explore this product. It is a remarkably complete offering. Unless you require features, such as footnotes and an equation editor, it might be all the word processor you ever need.

One final tease: Keep an eye out for an upcoming OS/2 version of Ventura's Framemaker, which should add some depth to this category.

Spreadsheets

Perhaps because of the prominence of Microsoft's Excel in the general spreadsheet market (and guess which major software company doesn't develop native OS/2 applications?), there aren't as many OS/2 spreadsheets.

1-2-3

The first really widely used spreadsheet is still king of the hill for OS/2 users. That's surprising (and potentially short-lived), because it really is another of Lotus' products that was moved from Windows to OS/2 with minimal effort to exploit OS/2's advantages. In fact, the OS/2 version lags behind their Windows product in functionality. One reader puts forth a comment representative of those we received, "1-2-3 competently performs all the duties (light business and laboratory spreadsheets) that I ask of it. While it's not as flashy as Excel or Borland's Quattro Pro, at this point in my life, I don't care, but it needs speed and more functions."

Many OS/2 users don't like having to choose between the Windows and OS/2 versions. Another reader reports that, "I miss some of the enhanced features offered by the Windows version of 1-2-3, but elected to regress in favor of native OS/2 functionality."

Mesa 2

The first real challenge to Lotus' 1-2-3 is being advanced by newcomer Athena Design. Providing more of the speed OS/2 users expect with its multi-threaded design, Mesa 2's native OS/2 design also takes advantage of the OpenDoc specification that allows much greater flexibility in embedding objects from applications other than Windows' more limited Object Linking and Embedding (OLE) technique.

Despite some user interface problems (particularly at high resolutions) and functionality oversights, expectations are high for Mesa 2's future. Its shortfalls, which one user referred to as "early-versionitis," can all be readily addressed in future releases. Even so, there's plenty to work with, such as two and three-dimensional charting and real-time data feeds. (Mesa 2 was reviewed in April 1995, p. 45.)

IBM Works

The spreadsheet component of IBM Works might not have quite as many functions and available macro options as its competitors, but it is a remarkably complete product. It also has the distinct advantage of being available free of charge with OS/2 Warp.

There is a general feeling that the spreadsheet category is one that could provide much room for improvement by new OS/2 developers. As one respondent described it, "I'm still waiting for a spreadsheet worthy of OS/2 Warp."

Communications

With on-line services, the line can become rather blurry between the two main communication areas: e-mail and telecommunications. You can use the Internet Access Kit for general communications and for electronic mail. CompuServe also provides both functions, so Golden CommPass or CompuServe Information Manager are difficult to categorize.

Golden CommPass

The main detriment to on-line services is the large bills that can be run up while paging through menus, reading messages, composing replies, and sending them off. Creative Systems Programming's Golden CommPass (GCP) is the best OS/2 product available for saving your CompuServe on-line dollars. By navigating the menus in the shortest path and by allowing essentially all message reading and writing to be done off-line — while CompuServe's meter isn't running — GCP can dramatically decrease those monthly credit-card shocks.

By exploiting OS/2, GCP also improves your personal productivity,

using multiple threads so you can begin reading messages from one forum even while messages from another forum are being downloaded. One reader described it as, "...the program I use to show off OS/2's multithreading." If Creative Systems Programming could ever tie GCP into CompuServe's Usenet newsgroup connection, the product would be complete.

CompuServe Information Manager

CompuServe's own CIM, which is included in the OS/2 Warp BonusPak, was also used by several people we spoke with, although bugs in the filing cabinet of early versions soured many on the product. The highly-visual interface is more approachable than Golden CommPass for newcomers, but many users will find themselves spending much more time on-line with the meter running. For casual CompuServe users, or for individuals who are exploring unfamiliar surroundings in the information service, CIM is the favorite.

cc:Mail

Among LAN/WAN-based e-mail products, Lotus Development Corp.'s cc:Mail is the clear leader. Unlike many Lotus products, cc:Mail is more tightly integrated into OS/2 and the Workplace Shell. It still isn't as complete in function as the DOS version, though, and isn't a particularly well-behaved OS/2 application. As one user reports, "I know cc:Mail for OS/2 Workplace Shell has received favorable reviews for being well integrated with WPS, but I never understood the basis for that description: this product locks up the entire desktop for inordinate amounts of time, despite the well-known guideline that applications should do no significant processing in the main thread."

Zap-O-Comm

Zap-O-Comm (ZOC) is almost a contradiction in terms: a graphical communications product that has excellent throughput. An early problem with the graphical simulation of modem lights caused some performance problems that have since been resolved. Use of OS/2 multitasking allows ZOC to function well without tying up all of the system's resources. This shareware product has distinguished itself in one reader's eyes, who said, simply, "there are no comparisons!!" (ZOC was reviewed in April, p. 49.)

HyperAccess/5

Hilgraeve got their foot in OS/2 users' doors when HyperAccess Lite was included in the OS/2 Warp BonusPak. As one reader put it, "HyperAccess Lite doesn't have all the bells and whistles, but I don't need those, so I am completely happy with this program." Anyone who needs additional features, such as advanced scripting, can move smoothly to the full commercial version of HyperAccess/5.

Personal Information Management

PIMs have become critical components of time and information management for many people. There are several OS/2 entries in this category. Let's take a brief look at the four leaders.

Relish

Sundial Systems' Relish is the runaway favorite here, garnering four times the reader support as any of its competitors. Relish allows many different views of your data, each of which is called a Bun (since, according to their press release, "that is typically where you put relish.") This lighthearted approach didn't scare off one reader who said, "Buns or not, it's industrial strength and very flexible."

Relish's strength is in its time management, particularly across workgroups. The ability to view and schedule time among other users across a network has become a requirement for a PIM to be accepted in an enterprise. It's ability to print the information and contact management still needs some work, but the basics are all covered, as well as many extras.

Extra

For people with 3270 connectivity needs, Attachmate's Extra appears to be the leading product, eclipsing IBM's Communications Manager/2 and Wall Data's Rumba. The users we talked to applauded the addition of APPC support to Extra, but asked for more 3270 types and scroll bars for better windowing.

Terminal Emulator/2

Those looking for the utmost in communications speed, who are willing to sacrifice a graphical user interface to achieve it, are turning to Oberon Software's TE/2. This character-based program offers a variety of terminal emulation types and scripting ability through REXX.

IBM Works

A distant second, the PIM components of IBM Works are based on early versions of Arcadia's Workplace Companion (as the other IBM Works components are based on Footprint Works). IBM Works is not as fully multithread-

Windows attitudes

Vendors should note a general dissatisfaction with those who assume OS/2 users will simply run Windows versions or will be satisfied with minimal ports. We tested this attitude with some of our readers. John K. said: "Overall, I have wanted to completely divorce myself from all 'Windoze' and even DOS applications to have a truly native OS/2 environment. I hope that, in the future, where the big companies fail to comply with OS/2 ports, the smaller companies will jump in and fill all the voids."

After delineating his long list of OS/2 applications, Roger also has a warning for OS/2 application vendors, "What I like most about these applications is that they are powerful, native OS/2, easily multitasked without hogging the processor, and stable. I will not put up with wimpy, featureless, or crash-prone OS/2 apps, just because they are OS/2 based, any more than I would with DOS or Windows apps. That's why I still run Lotus 1-2-3 for Windows: no OS/2 app compares."

ed as it might be for best performance, but nonetheless, it has relatively complete appointment, to-do, and address-book functions.

Arcadia Workplace Companion

The commercial version of the IBM Works PIM adds extra capabilities in all areas. The greatest enhancement is in the area of contact management. Everything's integrated, from the clock to the calendar and appointment book. The free-form notebook is a favorite, as is Arcadia's full use of drag-and-drop with the Workplace Shell.

Graphics

Until recently, this category was extremely slim for OS/2 users. A couple of newcomers have helped breathe new life into graphics, though, and

RESOURCES:

AmiPro
Lotus Development Corp.
(617) 577-8500
READER SERVICE NO. 163

Arcadia Workplace Companion
Arcadia Technologies Inc.
(818) 446-6945
Fax: (818) 447-4212
READER SERVICE NO. 164

cc:Mail for OS/2 Workplace Shell
Lotus Development Corp.
(617) 577-8500
READER SERVICE NO. 165

Clearlook
Clearlook Corp.
(703) 425-1163
(800) 818-5665
Fax: (703) 764 3746
READER SERVICE NO. 166

ColorWorks
SPG Inc.
(305) 362-6602
Fax: (305) 823-2753
READER SERVICE NO. 167

CompuServe Information Manager for OS/2
CompuServe Inc.
(614) 457-8600
Fax: (614) 457-0078
READER SERVICE NO. 168

CorelDraw
Corel Systems Corp.
(613) 728-8200
READER SERVICE NO. 169

DeScribe
DeScribe Inc.
(941) 732-5500
Fax: (941) 732-5414
READER SERVICE NO. 170

Extra
Attachmate Corp.
(206) 644-4010
Fax: (206) 747-9924
READER SERVICE NO. 171

Freelance Graphics
Lotus Development Corp.
(617) 577-8500
READER SERVICE NO. 172

Golden CommPass
Creative Systems Programming Corp.
(609) 234-1500
Fax: (609) 234-1920
READER SERVICE NO. 173

HyperAccess
Hilgraeve Inc.
(313) 243-0576, (800) 826-2760
Fax: (313) 243-0645
READER SERVICE NO. 174

IBM Works
Footprint Software, Inc.
(416) 860-0477
Fax: (416) 860-1780
READER SERVICE NO. 175

Impos/2
Compart Systemhaus GmbH
+(49) 7031 62050
Fax: +(49) 7031 620555
Distributed in the U.S.
by Indelible Blue
(919) 878-9700, (800) 776-8284
READER SERVICE NO. 176

Lotus 1-2-3
Lotus Development Corp.
(617) 577-8500
READER SERVICE NO. 177

Mesa 2
Athena Design Inc.
(617) 426-6372
Fax: (617) 426-7665
READER SERVICE NO. 178

Relish
Sundial Systems Corp.
(310) 596-5121
Fax: (310) 598-9851
READER SERVICE NO. 179

Terminal Emulator/2 (TE/2)
Oberon Software
(507) 388-7001
Fax: (507) 388-7568
READER SERVICE NO. 180

WordPerfect For OS/2
Novell Inc.
(800) 861-2507
(801) 225-5000
Fax: (801) 228-5176
READER SERVICE NO. 181

Zap-O-Comm
Marcus Schmidt
CompuServe: *zoc2052.zip* in OS2SHARE, Library 1
Internet: *ftp://ftp.cdrom.com/pub/os2/comm/zoc2052.zip*
READER SERVICE NO. 182

this category, which should really benefit more than many others from OS/2's power, should be much stronger.

Corel Draw

Corel recently took us on another roller-coaster ride, with rumors floating around that there would be an OS/2 version of Draw 6.0, followed by more rumors that the idea had been dropped again. Don't get your hopes up.

Corel users appear evenly split between those who continue to use the old OS/2 version (Draw 2.5), and those whose need for features has driven them to running the Windows version. As one reader put it, "I'm currently using Draw 2.5 for OS/2 but find myself being drawn back to Draw 5.0 for Windows due to the enhanced functions."

ColorWorks

A hot new native OS/2 graphics program is on the market and is setting the bar high for those who would compete. SPG's ColorWorks shows what is possible when you develop a program with an OS/2 mindset. Multiple threads allows things that can't be done with any other desktop graphics program, such as making your next edits even before another redraw is complete. Smart memory technology allows you to work with huge bitmaps quickly and easily without going into excessive swapping. ColorWorks is too new to have a really large following, but you can sense a ground swell happening. (ColorWorks was reviewed in September, p. 45.)

Impos/2

This German image processor from Compart Systemhaus is also starting to garner a market in the U.S. It covers the basics of image capturing and manipulation that you'd expect: you can grab images from scanners, the clipboard, and a wide variety of file formats, including Kodak's PhotoCD. The special effects have become an entrance requirement as well, for example cropping, trimming, and converting between the formats. People who manipulate images don't leave home without it. (Impos/2 was reviewed in August, p. 55.)

Freelance

More than the others, Lotus Development Corp.'s Freelance feels like a traditional business presentation tool rather than an artist's fantasy. It allows some OS/2 exploitation, but it shares some of the resource and speed problems common to Lotus' OS/2 efforts.

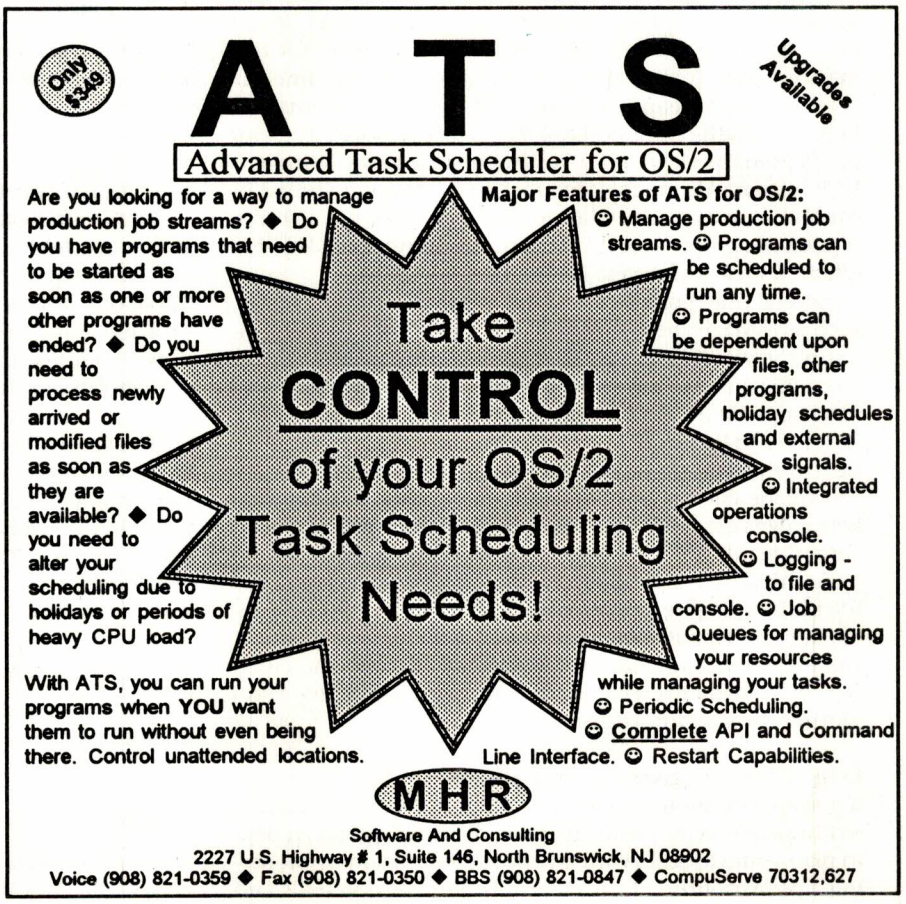
Summary

You can't always judge the best product by the number of copies in use. Look how many people are using Windows. Still, people usually have logical reasons for the choices they make.

Perhaps more important than the individual products most prominent in their categories, though, is the fact that more than 60 separate OS/2 programs were mentioned by one or more respondents in our informal poll. If we had expanded the categories in the survey, we would undoubtedly have heard about many more. And, while OS/2 users can also choose to run Windows applications, these are 60 programs that Windows users cannot have.

Don't assume, though, that the list presented here represents the entire universe of OS/2 desktop applications. These are simply the ones that appear to be the most widely used, and in most cases, represent the leaders of the pack. There are plenty of other outstanding products available, many of which simply suffer from poor marketing. The Miller Freeman Software Guide on the World Wide Web is a great resource for those searching for OS/2 applications. (It's free, so this isn't subtle advertising.) Point your browser to *http://www.mfi.com/softwareguide.*

Brian Proffit was part of IBM's OS/2 team and left IBM to become the director of PC Week's Corporate Labs. He is now the president of Visionary Research, senior contributing editor for OS/2 Magazine, and solutions advisor to PC Magazine. He can be reached on CompuServe at 75300,1466.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Tricks of the IPF Trade

A power-user's guide to the information presentation facility.

By Tim Bryce

Hypertext, one of the buzz-words of the 1980s, has come to roost as an important, if often overlooked, feature of OS/2. I'm referring to IPF, the Information Presentation Facility used to distribute on-line help, newsletters, frequently asked questions files (FAQs), and more. IPF source documents have the file extension *.ipf*; and the compiled hypertext books have the extension *.inf*, and are read with the *view.exe* utility included with OS/2.

One of the largest *.inf* documents around is the *OS/2 Connect* newsletter, which I edit and distribute through on-line services and bulletin boards. *OS/2 Connect* is developed in *.inf* format because it is one of the most efficient file formats for both text and graphics. *.Inf* has also become the predominant means for conveying documentation and help text on the OS/2 desktop. From a developer's and end user's point of view, *.inf* is vastly superior to the Windows HLP format. Although some nice features are included in the HLP format, such as "annotate" and "search" facilities, it pales in comparison to *.inf* in terms of functionality, file efficiency, ease of development, and ease of use.

Several fine products are available for creating an *.inf* file, such as IBM's Hyperwise or the IPF Editor from Perez Computing Services. However, I like total control over the document preparation process and, as such, opt to edit the document myself and produce the *.inf* file using the Information Presentation Facility (IPF) compiler that accompanies the OS/2 Developer's Toolkit. I could use a variety of word processors to edit the newsletter, but I'm comfortable with the Enhanced Editor (*epm.exe*) built into OS/2, particularly with the added "proof" feature for spell-checking and locating synonyms.

In this article, we'll go beyond a simple description of the IPF tag language and will, instead, provide insight for producing a richer *.inf* document. You'll probably gain the most value if you already have some experience using and creating *.inf* documents. (For an introduction to IPF, see "Presenting On-Line Information," May 1994, p. 30.)

Organize! Organize! Organize!

If you are developing an IPF document of substance, such as writing a newsletter, book, manual, or training guide, it pays to plan your work. As with any document, begin by preparing a proper outline (complete with Roman numerals and numbering). This step will ultimately become the Table of Contents for your *.inf* document and the roadmap for your IPF files. Here is an example:

```
OUTLINE
 I. INTRODUCTION
 II. BODY
      A. First Section
         1. Sub-Section
      B. Second Section
III. SUMMARY
```

Convert your outline into a shell of an IPF file with comments to indicate sections, such as the shell shown in Listing 1 (p. 36). You should pay special attention to two things in this example: inclusion of the tag **:docprof toc=1234.** towards the front of the text, and the numbering convention used for the **res** attributes. You will also notice the embedded text to indicate the **END** of each section (highlighted in red by the **:hp8** tags).

The **:docprof** tag specifies the number of levels in the Table of Contents. The default is three levels, which will probably suffice for most documents, but if you need to break down your document further, you must add the **:docprof** tag, specifying the number of levels (four in the example above; six levels is the maximum allowed).

The **res** attribute is used to uniquely identify each section in the document and can range from 1 to 64,000. Establishing a numbering convention that corresponds to your outline and the levels in the Table of Contents is extremely useful for uniquely identifying and maintaining each section of the document. To illustrate this point, consider the correlation of the **res** numbers in the example of the outline:

```
RES   OUTLINE
00100   I. INTRODUCTION
00200  II. BODY
00210       A. First Section
00211          1. Sub-Section
00220       B. Second Section
00300 III. SUMMARY
```

It's a good idea to update the outline with these **res** numbers, particularly if you plan to make use of hypertext links or

if someone else will need to maintain the document. In addition, it is common to include the whole outline in the IPF file hidden as comments.

In the case of large IPF files (such as the *OS/2 Connect* newsletter), your document might become too difficult to maintain as a single IPF file. Fortunately, you can divide the file into subordinate files and "imbed" (.im) them in your master file, thereby making it the "driver." (For decades, IBM has spelled the word "embed," using the uncommon variation "imbed.") Our example would now appear as shown in Listing 2 (p. 38).

```
.*****************************
.* (document name)           *
.*****************************
:userdoc.
:docprof toc=1234.
:title.(document name)
.im INTRO.IPF
.im BODY.IPF
.im SUMMARY.IPF
:euserdoc.
.*****************************
.* END (document name)       *
.*****************************
```

When the driver document is compiled, the subordinate IPF files are called and compiled in the sequence in which they are embedded in the text. Nested IPF files can also be embedded in subordinate IPF files. For example, the *body.ipf* file might appear as:

```
.*****************************
.* II. BODY                  *
.*****************************
:h1 res=00200.Body
:i1.Body
:p.
(insert text and graphics here)
:p.
:p.
:hp8.END:ehp8.
.im 1STSECT.IPF
.im SUBSECT.IPF
.im 2NDSECT.IPF
```

Notice the absence of ":userdoc." and ":euserdoc." statements, which are not required in the subordinate IPF files. As these subordinate IPF files proliferate, the outline should be updated accordingly for maintenance purposes, shown in Fragment 1.

Fragment 1: Outline with embedded files.

```
RES     OUTLINE       FILE
00100    I. INTRODUCTION          DOCUMENT.IPF
00200   II. BODY                  BODY.IPF
00210       A. First Section      1STSECT.IPF
00211          1. Sub-Section     SUBSECT.IPF
00220       B. Second Section     2NDSECT.IPF
00300  III. SUMMARY               SUMMARY.IPF
```

I cannot stress enough the importance of control over the sections of your document and it will save you considerable time later in maintenance. Other items to consider when planning your document include:

- Make each index name unique (the :i1. tag). The *.inf* index facility is a powerful feature that is actively used. Redundant titles will only confuse your readers.
- For manuscripts, include a copyright notice and other terms of ownership, either for public display or hidden from display by comments. If you don't protect your intellectual property, nobody else will.
- Assign your main IPF and *.inf* files meaningful names. If your readers use HPFS, you can use long file names, but many OS/2 users use the FAT system, and they'll be happier with names that conform to the 8.3 convention. If you are producing a serial document, such as the monthly *OS/2 Connect* newsletter, consider a consistent file-naming scheme that will reflect each issue. For example, *OS/2 Connect* is labeled as *conmmyy.inf* where "mm" represents the month and "yy" represents the year; *con1195.inf* represents the November 1995 issue.
- Finally, know your audience, particularly its language. This element will become important to consider if you are building a multi-national document (particularly at IPF compilation time).

Text enhancements

IPF offers writers a rich syntax to accentuate their work. Although several tags can be used to highlight text, the most frequently used include:

```
:hp1. (:ehp1.) - Italics
:hp2. (:ehp2.) - Bold
:hp3. (:ehp3.) - Bold Italics
:hp4. (:ehp4.) - Blue
:hp8. (:ehp8.) - Red
```

You can adjust fonts and sizes using the ":font" tag, which is particularly useful when creating banner headings; for example:

```
:font facename='Tms Rmn'
   size=36x20.
OS/2 CONNECT
:font facename=default
   size=0x0.
```

In this example, the first statement specifies the use of Times Roman with a point size of 36 x 20 (height and width). This specification is followed by the banner (*OS/2 CONNECT*) and, finally, the last statement reverts back to the default font and size.

Many IPF documents include lists of such things as names, numbers, and addresses, or other tabular information. The best way to display this information is with a monospaced font to express examples. Not only is it easier to read, but monospace fonts simplify the maintenance of the lists, and help reduce the size of the *.inf* file — a significant consideration when dealing with a voluminous document that must ultimately be transmitted over communication lines. The two tags primarily used for monospacing include:

```
:Xmp. (:Exmp.) - Example
:Cgraphic. (:Ecgraphic.) -
   Character Graphic
```

(You should beware of one obscure pitfall when using monospacing with CodeSmith's freeware utility *xit.exe*, which simplifies double-clicking on a window. When active, Xit somehow distorts the monospaced text that is displayed through the OS/2 View utility. You should turn Xit off and the text will appear correctly. Why this phe-

What's next for IPF?

I've been using IPF for some time and feel very comfortable with it. There are only a few enhancements I would like implemented. First, it would be desirable to add **mark** and **copy** commands to the system menu of the View utility to copy text from the document.

As a writer, I would also like to see a compiler option introduced to cripple the **Copy/Append to file** commands (as well as the proposed **Mark** and **Copy** commands). This option could be particularly useful when dealing with confidential and proprietary information, thereby helping to protect the author's or publisher's rights to the text.

I would also like to see a Windows Help-style Annotate facility added to the View utility for posting notes to the document.

Other enhancements might include such things as support for audio and multimedia files. Of course, if these items were implemented, the *.inf* file would be dangerously close to the functionality of web browsers, such as IBM's WebExplorer. Who knows?

nomenon occurs is not known, but it has been reported to CodeSmith.)

Lots of lists

Informational lists are an important part of many documents. Three key tags used for building them include: "ordered lists" (:ol.), "unordered lists" (:ul.), and "simple lists" (:sl.). However, most people overlook the **compact** command and the power of nested lists.

When using any of the list commands, the default is to insert a blank line between each line item (:li.). This method might work fine in some instances, but if you need to economize space, add the **compact** command, as shown in Listing 2.

It's a rather simple manner to nest lists within IPF, which is particularly useful for writing such things as outlines. When you nest lists, the resulting *.inf* file will indent and space the text accordingly; for example:

```
:sl compact.
:li.Mick Anderson
:sl compact.
:li.Enterprise Engineer
:esl.
:li.ABC Company

:li.Anytown, USA
:esl.
```

results in:

```
Mick Anderson
  Enterprise Engineer
ABC Company
Anytown, USA
```

The **ordered list** command will automatically number each item in your list. If you nest one ordered list within another, the IPF compiler correctly varies the numbering convention from numerics to alphabetics. For example:

```
:ol compact.
:li.INTRODUCTION
:li.BODY
:ol compact.
:li.First Section
:ol compact.
:li.Sub-Section
:eol.
:li.Second Section
```


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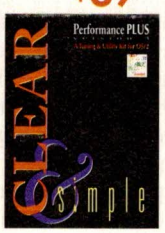

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```
:eol.
:li.SUMMARY
:eol.
```

results in

```
1. INTRODUCTION
2. BODY
    a. First Section
        1. Sub-Section
    b. Second Section
3. SUMMARY
```

The only problem in writing extensive nested lists is keeping track of where you started and ended each list. Maintaining lists can become complicated if you're not careful!

IPF text is left-justified, by default. You can't figure out how to position text right, justified, or centered? The secret lies in the **:lines align=x** tag: examples:

```
:lines align=right.
   (right justified)
:lines align=center.
   (centered)
:lines align=left.
   (left justified)
```

One final note on **:lines** and on lists: whenever you use these commands, they will always result in a preceding blank line, thereby negating the need for a paragraph (**:p.**) command. However, the **ending** tags (**:elines.**, **:eol.**, **:eul.**, **:esl.**) are just the opposite; they do not produce a blank line, and you will probably need to add a paragraph command.

Drawing tables

IPF has the ability to effectively draw tables with rows and columns. Fortunately, the syntax is not as complicated as it appears and produces impressive results. Here's the code used to draw a table with three columns (7 points wide) and two rows:

```
:table cols='7 7 7'.
:row.
:c.Item
:c.Price
:row.
:c.Batch Manager
:c.$150
:etable.
```

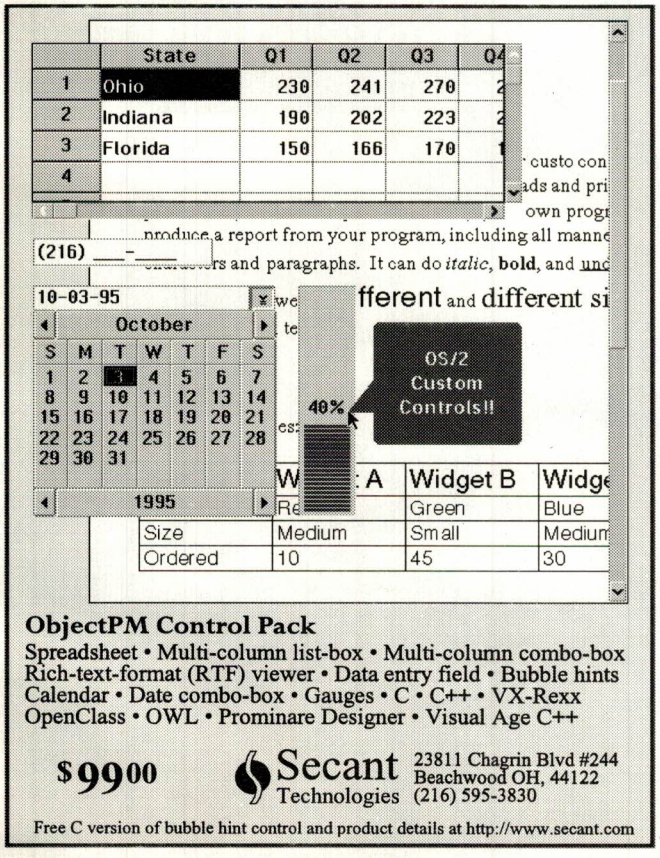
To spice up the appearance of the table, add some color tags to your column entries. Let's color the $150 item above red:

```
:c.:hp8.$150:ehp8.
```

Characters and graphics

Perhaps the two most annoying tags to deal with in IPF are the ampersand (&) and the colon (:). If you are converting ASCII text to the IPF format, you'll need to convert these two characters to the proper IPF format: replace each ampersand with **&amp**, and each colon with **&colon**. Similar & codes exist for special characters that are not available on the American keyboard, such as **&Lsterling** for the British pound sterling symbol. (Consult the IBM IPF documentation for a complete listing.) I strongly recommended that you convert these special characters *before* you move your text into an IPF file — this will greatly reduce compilation problems later on!

Now, to graphics. According to IBM's documentation, an IPF file can include graphics in the *.bmp* (OS/2



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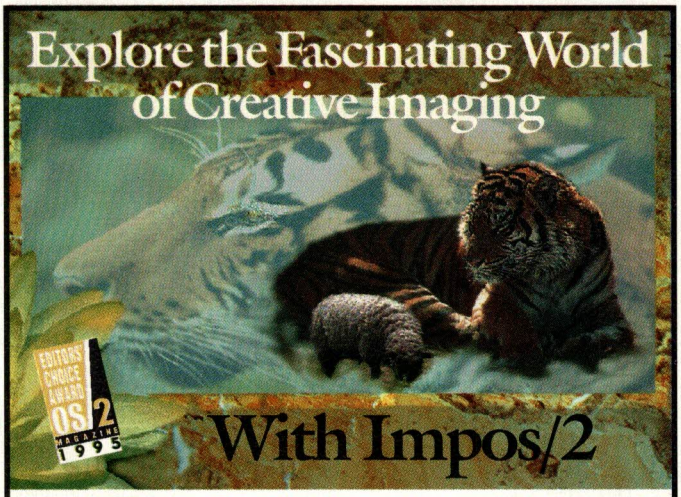

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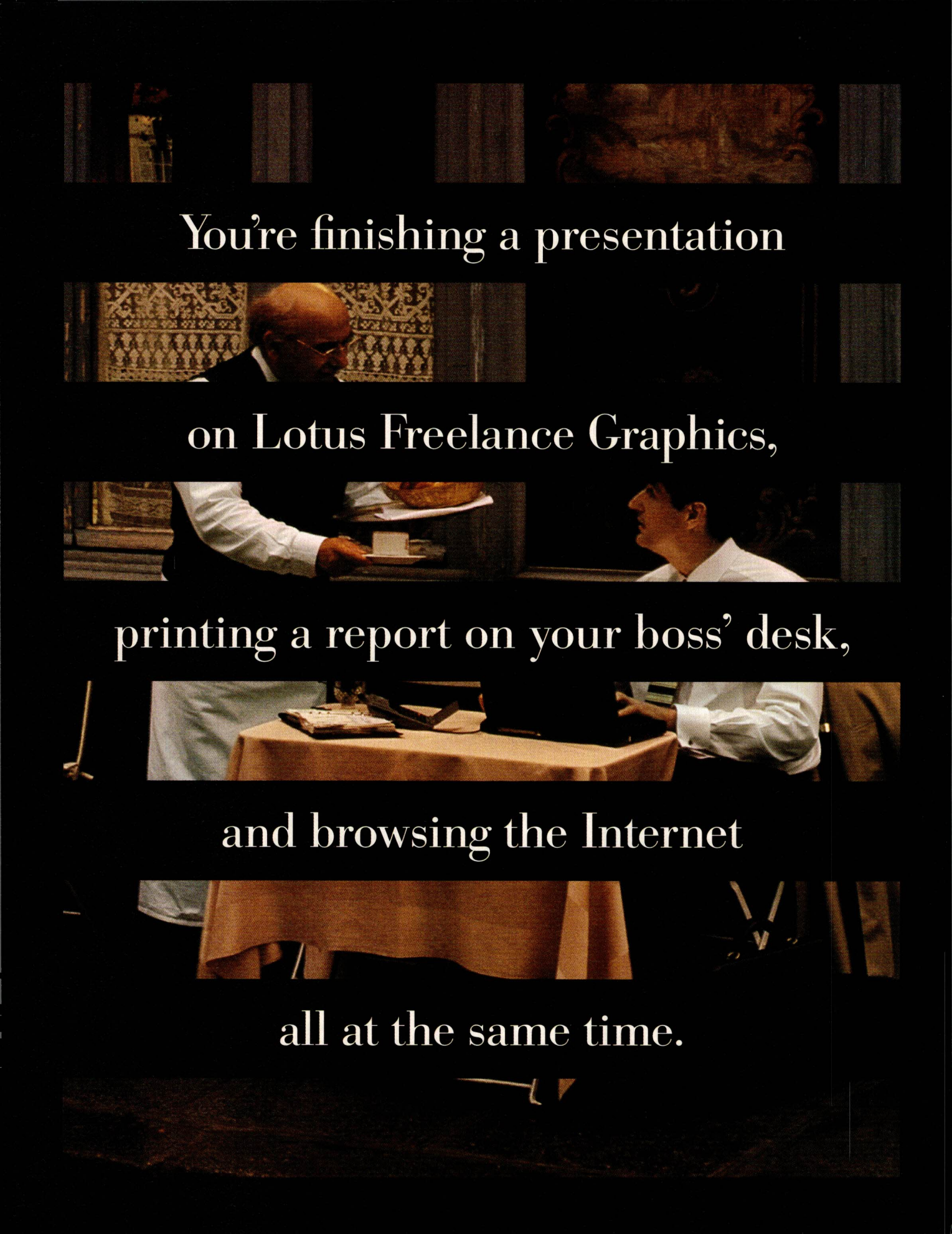
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bitmap) and *.met* (OS/2 metafile) formats. Unfortunately, you might experience trouble using meta files, so I strongly encourage you to stay with the *.bmp* format. Many commercial and shareware graphics programs can convert various file formats into *.bmp*.

When including a graphic in your IPF file, consider your readers' graphics resolution. Complicated graphics will not always suit each screen type and can appear grainy or muddy. Further, extensive graphics will cause your *.inf* file to grow considerably in size, thereby taking up more disk space and time transmitting over communication lines. Unless you know a better way, you might wish to limit your graphics to no larger than 640 x 480 and 256 colors, to accomodate the majority of OS/2 users.

Compilation considerations

Your IPF source text is compiled into a ready-to-wear *.inf* file using the IPF compiler (IPFC), included with the OS/2 Developer's Toolkit. Earlier IPFC versions had restrictions on the length of sections in the IPF document and would frequently crash if you attempted to compile a large section. It seems that nobody at IBM had envisioned the many uses of the *.inf* file. Fortunately, later versions of the IPFC eliminated the restrictions. However, if you run into such a problem, I suggest that you check to ensure that you have a current version of the compiler.

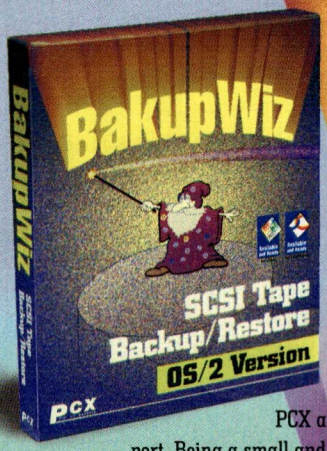
Running the compiler from the OS/2 command prompt is quite simple: enter the IPFC command, your IPF file name, and the */inf* file extension, for example:

```
IPFC CON1195.IPF /INF
```

If the */inf* extension is not used, the compiler will create an OS/2 help file (*.hlp*) instead. As the compiler processes through the document, it will display appropriate error, warning, and information messages. These messages can be automatically redirected to a file for later review by adding the following parameter:

Listing 1: An IPF Shell.

```
.*********************************
.* (document name)               *
.*********************************
:userdoc.
:docprof toc=1234.
:title.(document name)
.*********************************
.* I. INTRODUCTION               *
.*********************************
:h1 res=00100.Introduction
:i1.Introduction
:p.
(insert text and graphics here)
:p.
:p.
:hp8.END:ehp8.
.*********************************
.* II. BODY                      *
.*********************************
:h1 res=00200.Body
:i1.Body
:p.
(insert text and graphics here)
:p.
:p.
:hp8.END:ehp8.
.*********************************
.* II-A. First Section           *
.*********************************
:h1 res=00210.First Section
:i1.First Section
:p.
(insert text and graphics here)
:p.
:p.
:hp8.END:ehp8.
.*********************************
.* II-A-1. Sub-Section           *
.*********************************
:h1 res=00211.Sub-Section
:i1.Sub-Section
:p.
(insert text and graphics here)
:p.
:p.
:hp8.END:ehp8.
.*********************************
.* II-B. Second Section          *
.*********************************
:h1 res=00210.Second Section
:i1.Second Section
:p.
(insert text and graphics here)
:p.
:p.
:hp8.END:ehp8.
.*********************************
.* III. SUMMARY                  *
.*********************************
:h1 res=00300.Summary
:i1.Summary
:p.
(insert text and graphics here)
:p.
:p.
:hp8.END:ehp8.
:euserdoc.
.*********************************
.* END (document name)           *
.*********************************
```



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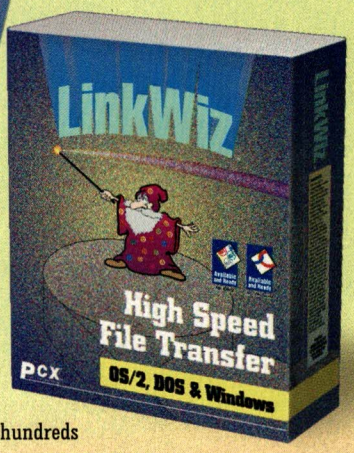

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Listing 2: Use of the COMPACT command.

```
(Example without
"compact")
:ul.
:li.Point One
:li.Point Two
:li.Point Three
:eul.

(results in)
* Point One

* Point Two

* Point Three


(Example with "compact")
:ul compact.
:li.Point One
:li.Point Two
:li.Point Three
:eul.

(results in)
* Point One
* Point Two
* Point Three
```

Converting to HTML

My *OS/2 Connect* newsletter is distributed both in INF format, for use with *view.exe*, and as a hypertext markup language (HTML) document accessible on the World Wide Web. The INF version is created first, and then converted to HTML.

If you are an experienced IPF user, you'll find HTML rather primitive and restrictive. However, it does make use of many of the same types of tags found in IPF. This ability paves the way for quickly converting an IPF document to HTML. The following conversion table contains the lion's share of the tags required for conversion:

IPF	HTML		
:hp1.		:ul compact.	
:ehp1.		:eul.	
:hp2.		:sl.	<p>
:ehp2.		:sl compact.	<p>
:hp3.		:esl.	<p>
:ehp3.		:li.	
:hp4.		:lines align=right.	
:ehp4		:lines align=center.	
:hp8.		:elines.	
:ehp8.		:xmp.	<pre>
:p.	<p>	:exmp.	</pre>
:ol.		:cgraphic.	<pre>
:ol compact.		:ecgraphic.	</pre>
:eol.		&amp.	&
:ul.		&colon.	:
		&Lsterling.	£

Note: No actual equivalent syntax exists in HTML for the :hp4. and :hp8. tags, however, I use the related HTML tags for consistency. In addition, no equivalent syntax exists for right justifying text using the :lines. tag, so I convert it into a tag.

Australian Peter Childs has developed freeware to help convert *.inf* files to HTML. His converter takes an initial pass at the *.inf* file and creates a preliminary set of HTML files requiring fine-tuning. The converter can be found on many bulletin boards and networks as *infhtm9b.zip*, or you can send him e-mail at *pjchilds@apanix.apana.org.au* or visit his home page at *http://www.apanix.apana.org.au/~pjchilds*.

```
IPFC CON1195.IPF /INF > ERR.LST
```

(You can use any output file name; *err.lst* is only used for this example.)

The IPF compiler provides international language support. No, it won't translate the text for you, but it will provide the means to produce an *.inf* file to suit the nuances of OS/2 for a particular country. To do so, you must add the targeted country, code-page, and language parameters to your compile command. To build a Japanese version of *OS/2 Connect*, I use:

```
IPFC CON1195.IPF /INF > ERR.LST
/COUNTRY=081 /CODEPAGE=437
/LANGUAGE=JPN
```

As the IPFC compiles the document, it references the *apsymbol.aps* file that contains the characters and symbols to be placed in the resulting *.inf* file. For some countries, such as Japan, China, and Korea that use the Double Byte Character Set (DBCS), a different symbols file must be used (such as *apsym932.aps* for Japan) and copied over the *apsymbol.aps*.

Wrapping it up

If you're a serious writer and want to take complete control over the IPF/*inf* document preparation process, purchasing the OS/2 Developer's Toolkit would be a wise investment. In addition to the necessary IPF compiler, the Toolkit includes an excellent desktop reference of IPF syntax and compilation instructions.

Nothing is duller to the reader than a lackluster document, no matter how well it is written. Spicing it up with graphics, colors, examples, tables, and lists greatly enhances its readability and usefulness. The OS/2 IPF/*inf* format provides a convenient means of building such robust documents.

I cannot over-emphasize the need for up-front planning and organization of the IPF document. I guess I don't see how the preparation of an on-line document is any different from an application development project. If you cut and hack away at the problem, you'll inevitably end up with a disjointed mess. But, if you plan and organize your work effort carefully, you will save considerable time and effort in producing the document and actually turn it into a rewarding experience.

Tim Bryce is an IRM Consultant with M. Bryce & Associates, Inc. in Palm Harbor, Fla. He can be reached at TimB1557@aol.com. The OS/2 Connect newsletter is available on most popular computer networks and BBSs. It can also be found on the Web at: http://warp.eecs.berkeley.edu/os2/connect

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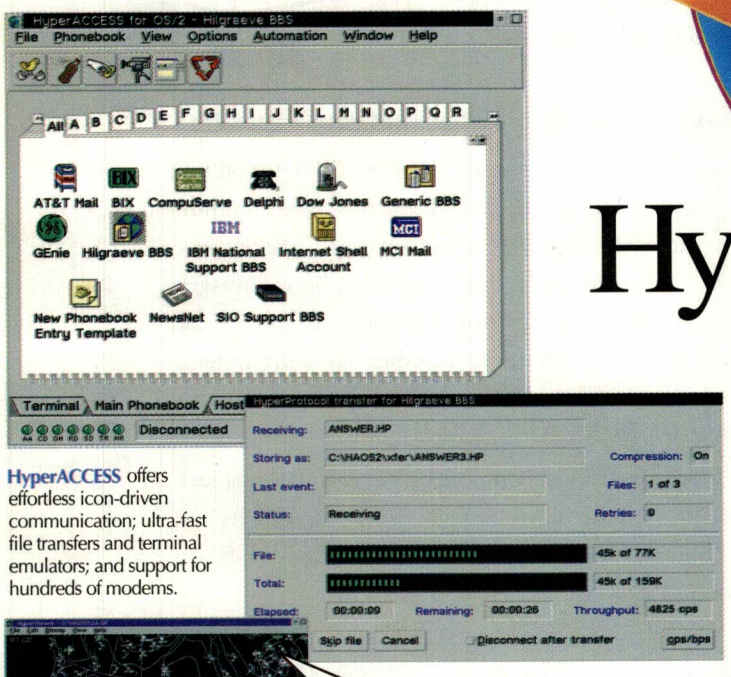
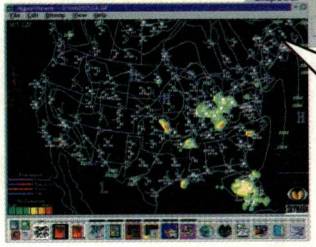


HyperACCESS offers effortless icon-driven communication; ultra-fast file transfers and terminal emulators; and support for hundreds of modems.



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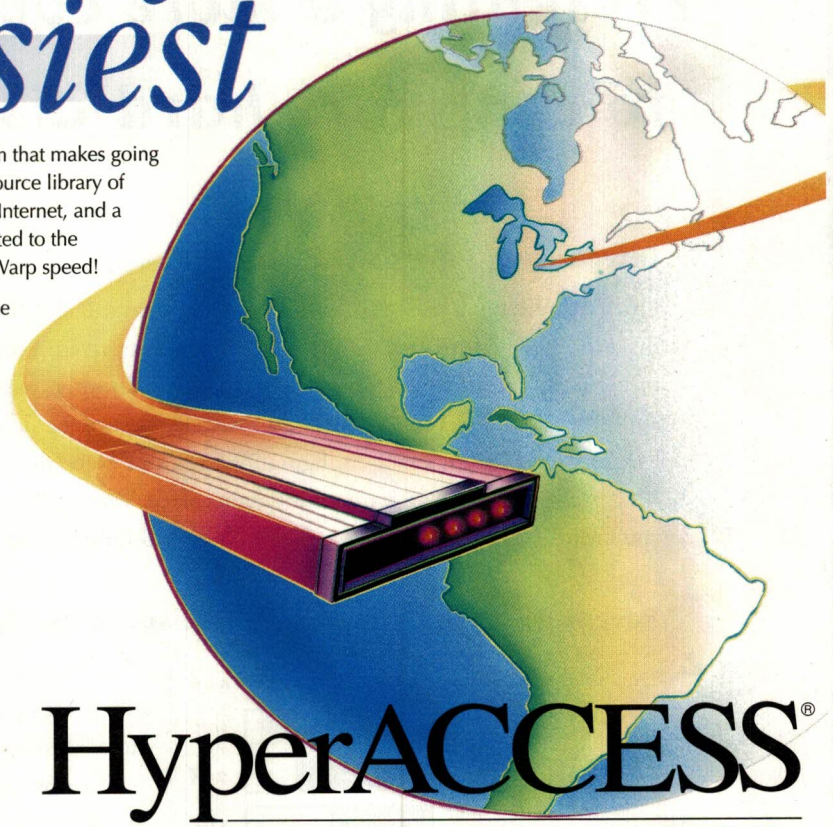

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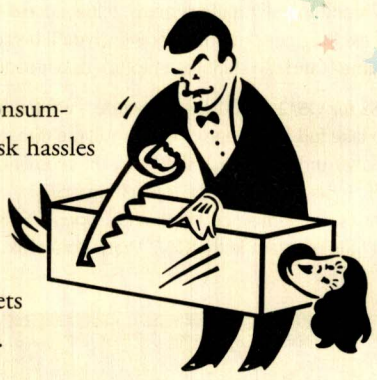
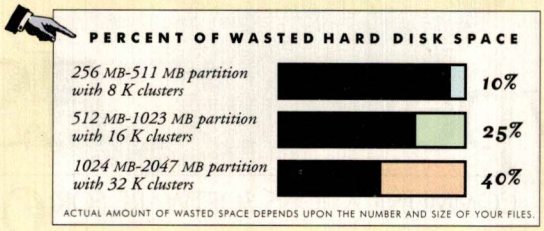


Ouch! Modifying a hard disk used to be a very painful and time-consuming process. But with PartitionMagic 2.0, you can carve up hard disk hassles in minutes. PartitionMagic lets you dynamically shrink, expand and move FAT and HPFS partitions—without destroying data—to create your dream OS/2 configuration. You can even convert FAT partitions to HPFS with your data in place. Version 2.0 also lets you create, delete, and format as well as hide and unhide partitions.

Reveal up to 40% more hard disk space by efficiently resizing clusters.


PERCENT OF WASTED HARD DISK SPACE
256 MB-511 MB partition with 8 K clusters
10%
512 MB-1023 MB partition with 16 K clusters
25%
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40%
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With the wave a mouse, Version 2.0 lets you visually resize inefficient FAT clusters to reclaim hundreds of megabytes of hidden disk space on large hard drives. Also, create room for Boot Manager, explore the power of HPFS, protect sensitive data and even make room for other operating systems.

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PartitionMagic 1.0 won the prestigious OS/2 Magazine Editors' Choice Award, and that was just the warm-up for our next act. Partition Magic 2.0's user-friendly interface, combined with its non-destructive partition and cluster resizing, eliminates the dangers of disk partitioning and ensures that your data—and your schedule—doesn't go up in smoke.

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Version 2.0

PartitionMagic®

Reader Service No. 22

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Let the Games Commence!

MSR's MicroLearn Game Pack, Vol. 2 and the IBM Family FunPak. BY ALEXANDER ANTONIADES

In our last roundup of OS/2 games ("Player's Choice," June 1995, p.28), the state of OS/2 gaming was small, but growing. Since then, a number of new games have been announced, but few have been released.

Part of the delay was due to the fact that developers were waiting for the release of the first game developers' toolkit, the Developer's Connection disk 8, which arrived in August. Another factor is that most of the OS/2 game developers work in very small companies that have limited development budgets for games. However, a couple of games made it to market in time for us to prepare this special holiday season review and compile a list of goodies that should be ready by the time you read this issue. But, enough talk about the future; let's look at two new games packages that are available today; MSR Development's MicroLearn Game Pack Volume II and the IBM Family FunPak.

While the MicroLearn Game Pack manual is pretty skimpy, the on-line help more than compensates.

MicroLearn Game Pack Volume II

If you didn't catch the last round-up of OS/2 games, one of our favorites was the MicroLearn Game Pack Volume I. This collection of puzzle games was one of the best showcases of the potential of OS/2 for gaming — and the tradition continues with the second version.

Eight new games and an expanded feature set have been added to Volume II. The most noticeable addition is sound — real sound and music. The games come on CD-ROM (despite the fact that they only take up 15MB of disk space). Jari Williamson, the author, is a classical violinist who programs between concerts. He has thoughtfully included music on the CD that can be used as background music for the games.

The other standout features are the graphics and the customizability. Game Pack's graphics are done in a funky grafitti cartoon style that looks good at any resolution. You can customize it to add custom animated mouse pointers over the application and modify board sizes, the levels used, and even specify different *.wav* files to play for various game events.

Another option that sounded useful, but turned out to be more of a novelty was the "ML player" Workplace Shell object that can store your name and even your picture. Unfortunately, the player object doesn't provide anything that couldn't be accomplished with the master control panel (called the GP2 Toolkit) or a single data file. Worse yet, when I tried to customize a player object by adding a picture of my face, the *Players* folder turned into some sort of toxic data that would hang my machine every time I opened it. Luckily, I was able to deregister the player class, using the GP2 Toolkit utility, reboot, delete the folder, and then recreate it.

Another oversight is that the master control panel, which controls the master setup for some game features, doesn't allow you to set *all* of the common features. So, if you want to set the interface to automatically pause a game when it moves into the background (which is a cool feature), you have to set it separately for each game,

While all of the games have great graphics, I liked Mirror Man the best.

which I found to be something of a nuisance.

But, minor complaints aside, it's the games that we pay money for and the two that stood out were **Sauron's Eye** and **LongLegs**. These two action games are reincarnations of the classic arcade games, Break-out and Qbert. Both are well implemented and easily controlled by the mouse, so they make great diversions while waiting for a long download or while installing software.

My one complaint with these two games was that the order of levels was always the same. While multiple level sets are included, you have to play the same 10 or 15 levels at the beginning of each game, which got old after a while.

Combo II and **Blox** are two puzzle games reminiscent of the first MicroLearn Game Pack. In Combo II, a sequel to a game in the first package, you guide two different-colored balls to their respective destinations along a set of pipes that you can rotate to let the balls through. And, in Blox, you match up sets of boxes, although the catch is you have to move all of the boxes at once. Although Blox was too simple to keep my attention, Combo II was often the perfect semi-action game for those lulls in the workday.

MirrorMan is probably my favorite of this series. You control two characters, each of whom moves in the opposite direction to the other. The graphics in this game are the best in the game pack.

ML Memory is the famous card-matching game, also known as Concentration. All of the cards are face down and you turn them over, two at a time, looking for matching sets. While the implementation is good, I don't think anyone over age eight will find it much of a challenge.

Morris is a simple Go/Othello-type game. You must corner your opponent's pieces or eliminate them by lining up three in a row. I've never been good at these games, but I soundly thrashed the computer on all but the highest level, so I recommend playing against a friend.

Rockbot is the biggest single game in terms of length of play. While all of the other games in this package are played level by level, in Rockbot you control a robot digger that travels through a series of interconnected rooms. While this game felt more like a stand-alone game than any of the others, I found it difficult to shift gears and concentrate on one large puzzle, when the other games were so much fun.

While most of my experiences with the Game Pack II were trouble-free, a few bugs did crop up. The mouse didn't always correctly re-establish itself as the game controller on some of the games after pausing; so, once the game lost focus, I had to restart. Other problems involved difficulties with sound, but that's because of MMPM/2, OS/2's antiquated multimedia subsystem (an API only a mother could love). Sometimes, the sound would quit playing in the more sound-intensive games (such as LongLegs and Sauron's Eye), and the only way to get it back was to stop and restart the program. With that said, the sounds usually didn't give me any problems, and the internal speaker driver, for machines that don't have soundcards, is very good.

Despite these problems, I enjoy the MicroLearn Game Pack II and heartily recommend it to any OS/2 user who wants some games to play while other programs are working.

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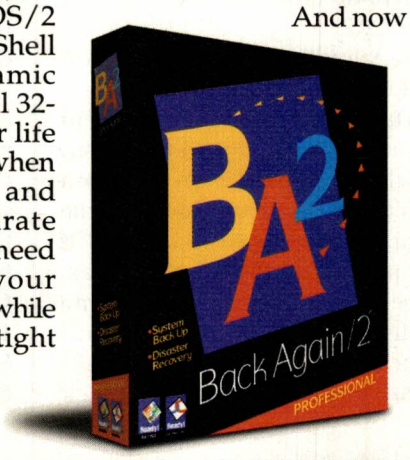

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IBM Family FunPak Install
Welcome to the IBM Family FunPak for OS/2 Warp!
Star Emperor (Size: 6 MB)
Child Development Guide (Size: 22 MB)
MicroLearn Game Pack (Size: 2 MB)
In Charge at Home! (Size: 5 MB)
American Heritage Dictionary (Size: 5 MB)
OS/2 Black Jack (Size: 1 MB)
SimCity Classic (Size: 2 MB)
Rapid Assault (Size: 1 MB)
Magic Canvas (Size: 4 MB)
Havoc (Size: 1 MB)
TD-Gammon (Size: 1 MB)
OS/2 Poker (Size: 1 MB)
FunPak!
Total Disk Space Required: 53 MB
Click on the applications you do not want to install to deselect them.
Click on Continue when you are finished making your selections.
Continue
Exit
Help
This slick installation program tells you how much disk space is needed.

Family FunPak

IBM's Family FunPak is a collection of games, home software, and reference utilities. The installation program is pretty slick but flawed. You can't change the installation path. The total Family FunPak weighs in at a rotund 53MB, 22MB of which is taken up by the Child Development Guide. This amount of disk space seems unnecessary, considering that other programs in this package (such as Rapid Assault) could run off of the CD-ROM, installing as little as possible on the hard disk.

The star of the Family FunPak is Stardock's **Star Emperor**. This game uses a lot of the same code as Galactic Civilizations, but the gameplay is much faster and not as in-depth. After an hour of playing Galactic Civilizations, you'd still be exploring planets and establishing your empire. After an hour of playing Star Emperor, you're gearing up for the final battle. While I missed the subtle tweaking and economic intrigue of Galactic Civilizations, I did find it more satisfying to start a game that I could finish in a single night.

I can't say much more about Dux Software's **SimCity Lite** than I said about the full version of the game in June. This version has half the scenarios and disasters of the full version, but runs just as slowly. While Dux has fixed some of the bugs that plagued the first release, this game still needs about 16MB RAM and a 486 or better to be playable.

The MicroLearn **Game Pack Volume I**, included in the Family FunPak, was a favorite of mine, and nothing in the FunPak has changed this, even though the installation program doesn't create the nice folder with the MicroLearn bitmapped background. If more people buy the Family FunPak, maybe this time someone will create and distribute new game levels with the included editors.

OS/2 Poker and **OS/2 Black Jack** are two shareware-caliber card games from Reed Software. Die-hard black jack and video poker fans will probably enjoy these two programs, but the rest of us will want to hold out for games with sound and better graphics.

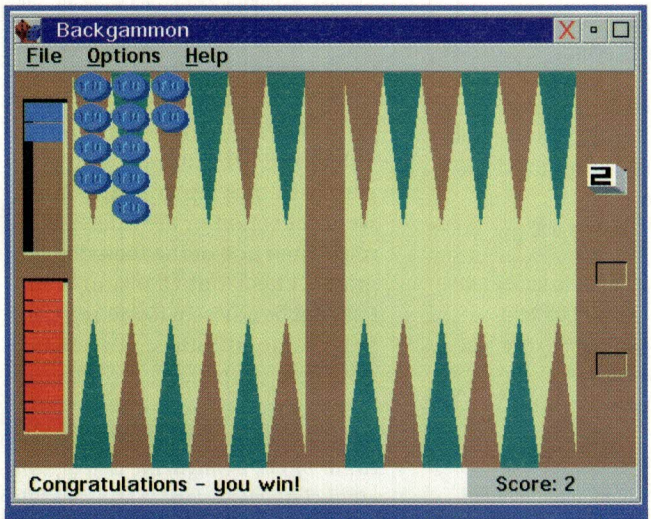
Havoc is the latest incarnation of Leonard Guy's classic OS/2 interpretation of Asteroids, Roids. While this game is fun for those who have never seen it, it has been publicly available as shareware or as part of the other collections for almost two years.

The **American Heritage Dictionary**, concise edition, varies from the full version (see October 1995, p. 50) only in that it has an 82,000-word vocabulary, instead of 200,000 words, and no thesaurus is attached. This product would be more worthwhile if it integrated with any text editors or word processors, but this capability isn't included, apart from a command to read whatever word is stored in the clipboard.

Child Development Guide seems like a natural inclusion for the Family FunPak, yet its worth is negligible, at best. Apart from some nice touches, such as creating a repository for key information about your baby, providing such information as your child's birth stone and some rudimentary parenting advice, the program has some considerable setbacks: the 900 number for tech support; a puzzling link to a photolab service, without which you can't insert any pictures into the family album, and, strike three, the program takes a 32MB chunk out of your hard drive. It's a great program to test the FunPak's uninstaller on.

In Charge at Home is a Quicken-type personal finance program for OS/2. As the title indicates, it is a subset of the regular In Charge program that Brian Proffit enjoyed, despite a high learning curve in the user interface ("Test Drives," May 1995, p. 19). This version misses features in the area of small business management, however, apart from bugs, Spitfire won't

Star Emperor is the main draw to the FunPak.



While the backgammon interface isn't bad, IBM could have done a lot more with it.

offer any updates the way it does with the full version. To give you an idea of the lag, the version in the FunPak is mod 26 and, at press time, the stand-alone version of In Charge was up to 32.

TD Gammon is an example of IBM taking an idea and crawling with it. On top of a killer artificial intelligence program developed by IBM, which supposedly can beat world-class backgammon champions, IBM stuck a bare bones, no-sound-effect PM interface and killed all possible enthusiasm anyone could have had to play it. Also, you better hope it works right, because no tech support is available.

Magic Canvas and **Rapid Assault** are a Windows children's paint program and a DOS 3D-shooter, respectively, which demonstrate how few OS/2 game developers IBM

Promises, promises...

While the PC community in general, and the OS/2 community in particular, has become used to the broken promises made by vendors about ship dates and general availability, it seems that the OS/2 game drought may be close to ending. Here is a list of commercially released games that you should start pestering your retailer about, so you can show that there's demand for OS/2 games.

The Arena of Zha Duun (Stardock Systems) A multi-player, multi-vehicle, action tank simulator with head-to-head play.

Avarice (Stardock Systems) This Myst-like game has a number of niceties such as 24-bit graphics, truly intelligent non-player characters, and multiple threads to load images faster. ($59.95)

Doom/2 (IBM/Id) Granted, this long-rumored game is over a year late for OS/2, but as one of the projects that is being used to test the hooks added to OS/2 by the game developer's toolkit, this product could finally make its way to market.

Entrepeneur (Stardock Systems) As the head of a small company you build, search for suppliers, distribute and ultimately market your product in a bid to become a larger company. ($59.95)

Galactic Civilizations 2.0 (Stardock Systems) An updated version of this OS/2 game with better micro management, new graphics, and a multi-player option.

Lemmings for OS/2 (Psygnosis) The Psygnosis division of Sony Entertainment ported the original Lemmings code from the Amiga to OS/2, which promises to make this one of the best versions yet.

Master of the Empire (Stardock Systems) This game is similar to the strategy classic Empire, now with resources and networking. ($59.95)

MicroLearn Game Pack, Volume III (MSR Development) Four of the most popular games from Volume I will be included in much-enhanced versions, as well as four entirely new games. The user interface will be further enhanced based on the Volume II style.

MicroLearn Pool (MSR Development) (Initial working name, final name not yet decided.) A 3D pool game with very advanced graphics.

SimCity 2000 (Maxis/Dux) Maxis' classic game of city management is being ported to OS/2. This time, the graphics will be done using OS/2's DIVE. ($49.95)

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Review

Net Play

A number of individuals and small companies have started working on game projects that, due to their limted funds, have only been publicized on the Internet. Some of these games are surpirisingly large in scale I recommend that anyone interested in OS/2 gaming check into these projects.

Monk A real-time war game in the Warcraft/Dune 2 tradition.
home page: *http://cs.colgate.edu/dbraun/monk.html*
e-mail: *dbraun@cs.colgate.edu*

Overthrow A real-time strategy game where you are trying to overthrow a dictator's government.
home page: *http://www.eecs.wsu.edu /~bbrown/overhome.html*
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Pinball/2 A multithreaded, multimedia pinball game, where you can create/edit your own table.
home page: *http://www.undergrad.math.uwaterloo.ca/~dzouak/mages2*
e-mail: *mages2-contact@iastate.edu*

Real Baseball This promises to be the most realistic computer baseball simulation yet.
home page: *http://www.cc.gatech.edu/people/home/buie/RealBaseball.html*
e-mail: *buie@cc.gatech.edu*

SimBlob This cross between Civilization and SimCity will hopfully be in beta by the time you read this.
home page: *http://www-cs-students.stanford.edu/~amitp/games.html*
e-mail: *amitp@cs.stanford.edu*

Toyland This is an puzzle type game in the tradition of the UNIX game Sokoban and the MicroLearn Game Pack.
home page: *http://www.uni-koeln.de/~a0085/Toyland.html*
e-mail: *menge@rrz.uni-koeln.de*

Vantage A game where you program robots and compete against them.
home page: *http://optima.cs.arizona.edu/people/darrel/*darrel.html
e-mail: *darrel@lectura.cs.arizona.edu*

actually has a relationship with. While the Family FunPak does set up the program objects and create custom icons for these programs, I won't review them here because this is supposed to be an *OS/2* FunPak — I already know where to find DOS and Windows games. Many of the products listed here are already out of date, and most of the vendors don't even consider people who buy the Family FunPak real customers. Some companies, such as Stardock, are offering upgrades to their own games, while others, such as Dux, have already discounted the games in question or expect people who use these "lite" versions of their products to pay full price to "upgrade."

This package could have been great, but disorganization and shoddy presentation make it a questionable value. If you're looking for games to beef up your OS/2 software collection or are interested in more than one of the included programs, check out the Family FunPak. But be advised: If you're a computer game enthusiast, it's nowhere near state-of-the-art.

Alexander Antoniades is the associate editor of OS/2 Magazine and a game enthusiast who helped to launch Miller Freeman's Game Developer magazine. He can be reached on CompuServe at 71154,676 or via the Internet at sander@mfi.com.

RESOURCES:

MicroLearn Game Pack Volume II ($69.95
MSR Development Corp.
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Visual Report Writing

HockWare's VisPro/Reports. BY RICK KRUER

HockWare's programmable report writer, VisPro/Reports, claims that it "Makes You a Champion Visual Programmer." True to their slogan, this product does an excellent job of allowing reports to be defined graphically using WYSIWYG ("What You See Is What You Get") tools. A programmer savvy in the REXX language (included with OS/2) can then print out this visually defined report merged with pertinent data.

VisPro/Reports makes fun what is normally a dreaded part of a typical programming project: coding the output reports. This product could very easily become essential as a business utility, but not in its current form. Although VisPro/Reports is a programmer's dream tool, HockWare missed a large potential segment of the market: Most of the business professionals who use OS/2 to run their businesses do not have REXX programming knowledge. With a very small amount of effort, this programmer's tool could be transformed into a more general-purpose business tool.

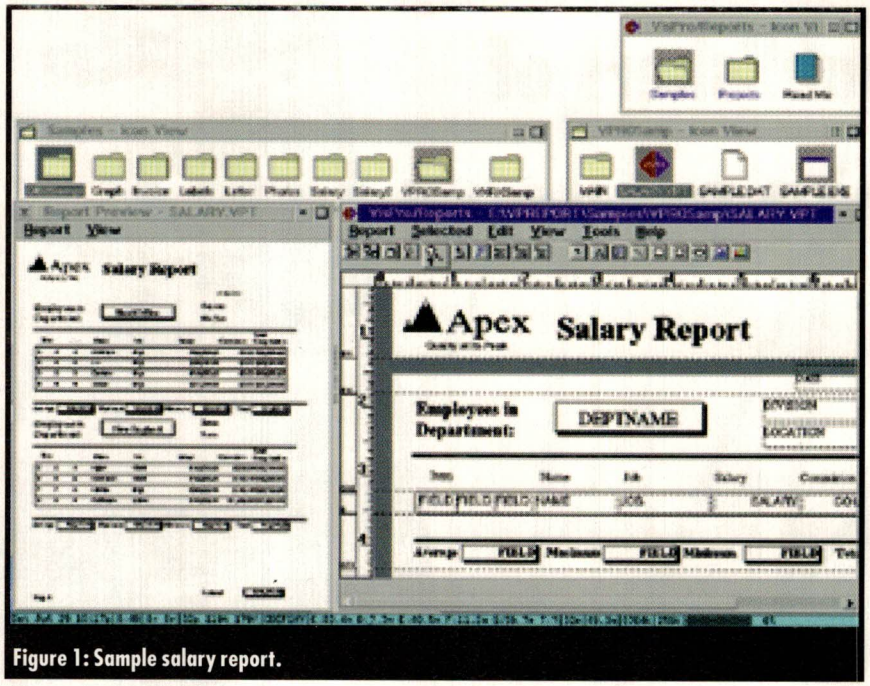

Figure 1: Sample salary report.

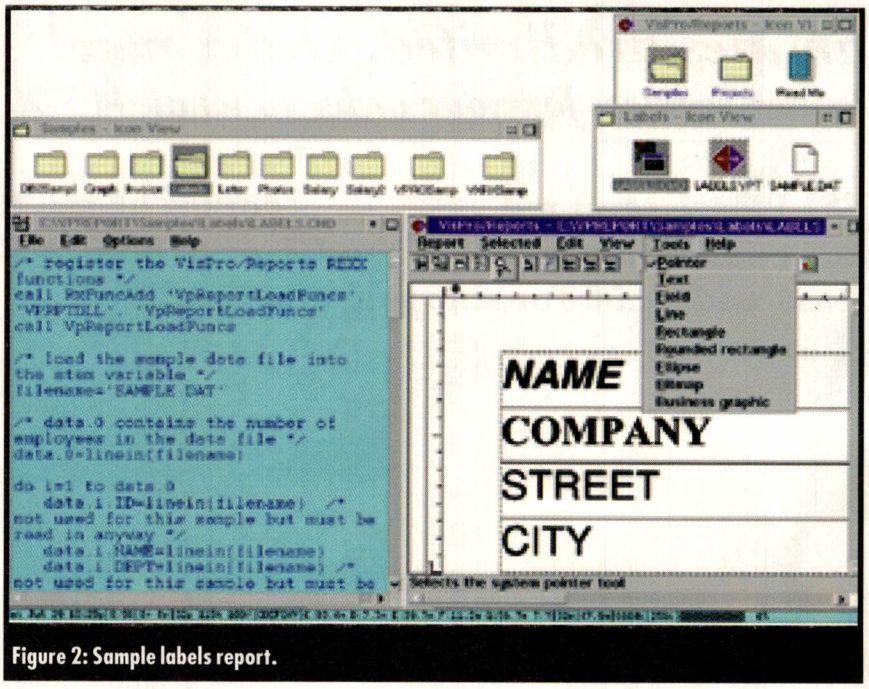

Figure 2: Sample labels report.

Report writers in history

Back in prehistoric days (the early 1970s), programmers tirelessly produced programs which, for the most part, did a lot of report writing. Although many complicated business systems were in use, many, many programmers spent their days earning a living writing report programs. These programs would take data (such as names, addresses, and billing information) and manipulate, calculate, reformat, and finally output a printed report. These reports, for all the time and effort they took to produce, did not look very exciting: Pure text

(words) in black print usually on green-and-white lined paper.

Fast forward a decade. As personal computer systems became commonplace, report writing moved to the PC in two ways. The first involved writing custom programs to do what the mainframe programmers did. The second was more simple: using a word processor, information was typed in and printed out with manual changes for each new report. VisPro/Reports represents the next evolutionary stage up in report writing: visual report writing.

Visual programming (and visual report writing) involves using powerful drawing tools to create an image of the program's output, instead of using laborious programming sequences to accomplish results one painfully slow step at a time. Visual programming environments "generate" programming code, or, as is the case with VisPro/Reports, create the finished report and allow you to insert pieces of personalized data to make the printed result complete.

Visual report writing

VisPro/Reports is a REXX-enabled report writer that allows you to print reports from any REXX program. The customized report is created, using WYSIWYG tools, as a template that has visual objects strategically placed. Report objects include text (with color and standard OS/2 font support), charts and graphs (sometimes referred to as business graphics), photographic images (bitmaps), and various shapes (lines, rectangles, ellipses). Last, but not least, fields are added as the most important part of the report. Fields are placeholders for data that are specific to that particular instance of the report. Take, for example, a typical business form, the invoice. The invoice form itself is fixed and customized for your company using a logo, company name and address, and other business graphics. The data that goes on each invoice is different, of course, depending on the customer and what goods or services are being purchased.

Getting started with VisPro/Reports can be a challenge, due to the documentation's poor tutorial. Let's walk through the basic procedure for your first VisPro/Report. First, create the report using the visual tools and save the report file. Your report creation might consist of simple text or complicated graphics, fancy fonts, and other objects. Second, create the REXX program that prints the report after filling in the specific data fields for this report. HockWare provides assistance in this area, but it has such a non-descriptive name that it is easy to miss. After the report template is fin-

Listing 1: Sample "Invoice" REXX Program

```
/*
 * REXX Sample "Invoice" REXX Program
 */

/* register the rexx functions */

call RxFuncAdd 'VpReportLoadFuncs', 'VPRPTDLL',
'VpReportLoadFuncs'
call VpReportLoadFuncs

DATA.SALESPERSON='Rick'
DATA.DATE=date()
DATA.NAME='John Doe'
DATA.COMPANY='Acme Widgets'
DATA.STREET='52 Elm Street'
DATA.CITY='Bayport'
DATA.STATE='NC'
DATA.ZIPCODE='27754'
DATA.ORDERNUM='I400123'
DATA.ACCNUM='C2234'

DATA.1.QUANTITY=2
DATA.1.DESCRIPTION='Blue Widget'
DATA.1.PRICE=2.23

DATA.2.QUANTITY=12
DATA.2.DESCRIPTION='Red Widget'
DATA.2.PRICE=5.34

DATA.3.QUANTITY=10
DATA.3.DESCRIPTION='Green Widget'
DATA.3.PRICE=3.42

DATA.0=3 /* number of data items */

rc=VpPrintReport(0, 'invoice.vpt', 'DATA.', '<DEFAULT>')
say 'rc=' rc
```

Listing 2: REXX Program to read Act database.

```
/* rexx
 *
 * Listing 2 REXX program to test VisPro/Reports "Labels"
 *
 *
 * name:      RickACT.cmd
 *
 * date:      July 20, 1995
 *
 * author:    Rick Kruer for OS/2 Magazine <rick@computer-miracles.com>
 *
 * function:  This Rexx program will read a Symantec Act for Windows
 *            database (dbf) in comma delimited format, extracting
 *            name and address data to produce VisPro/Reports labels.
 *
 *            This program as written will extract ALL records from
 *            the Act database, modify to suit your needs.
 *
 * status:    This program is freeware and may be copied without restrictions
 *
 */
namestem.           = ''
keepstem.           = ''
exclude.            = ''
exclude.COUNTRY     = 1                    /* Exclude this Act field */
exclude.MANAGER     = 1                    /* Exclude this Act field */
exclude.OWNER       = 1                    /* Exclude this Act field */
exclude.SALUTATION  = 1                    /* Exclude this Act field */
namestem.0          = 0
keepstem.0          = 0
exclude.0           = 0
incount             = 0
outcount            = 0
infile              = 'd:\actwin2\database\miracles.txt'      /* Your database name */
outfile             = 'y:\work\vpreport.txt'                  /* Your output file name */
limit_infile        = ''                                      /* limit count or null */

say
say "Welcome to Rick's Act database reformat for VisPro/Reports"
say
say "Input comma delimited database text file:" infile
say "Output VisPro/Report text formatted file:" outfile
say
say "Note: this may take many minutes depending on file size"
say "W o r k i n g . . ."
say
/*
 *---------------------------------------------------------------------
 * Register Rexx Utility functions
 *---------------------------------------------------------------------
 */
```

Listing 2 continued on 52

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ished, pull down the File menu and select Create Link to Clipboard (yes, that's really the command). This little goodie will generate a basic skeleton REXX program to access the fields defined in the report.

Listing 1 shows a sample REXX program that can be used to print an invoice using VisPro/Reports. For all you programmers out there, the structure of all VisPro/Reports REXX programs are basically as follows:

- Register and load the VisPro/Reports interface DLL.
- Set the data field values using the proper REXX stem variable (such as DATA).
- Call the VPPRINT interface routine to print the report.

Note: two functions have been added to PREVIEW and QUERY printer information, but they are only available in a REXX environment, such as VisPro/REXX, Watcom's VX-REXX, or other visual REXX programming environments. This deficiency is a setback to the usefulness of this product. If you are using OS/2's standard character-mode REXX to run VisPro/Reports, **PRINT PREVIEW** and **PRINTER QUERY** are not available. These functions are very useful, so you might want to add the price of VisPro/REXX or VX-REXX to the price of VisPro/Reports to make the package as full-featured as possible.

Listing 2: REXX Program to read Act database. (cont'd)

```
call RxFuncAdd 'SysLoadFuncs','RexxUtil','SysLoadFuncs'
call SysLoadFuncs
/*
 *-------------------------------------------------------------
 * Delete output file if it exists
 *-------------------------------------------------------------
 */

rc = stream(outfile, 'C', 'QUERY EXISTS')
if rc <> '' then do
   rc = stream(outfile, 'C', 'CLOSE')
   rc = SysFileDelete(outfile)
   say 'file' outfile 'deleted'
   end
/*
 *-------------------------------------------------------------
 * Open files
 *-------------------------------------------------------------
 */

rc = stream(infile, 'C', 'OPEN READ')
if rc \= 'READY:' then do
   say 'Error doing stream open read'
   say 'rc=' rc
   end

rc = stream(outfile, 'C', 'OPEN WRITE')
if rc \= 'READY:' then do
   say 'Error doing stream open write'
   say 'rc=' rc
   end
/*
 *-------------------------------------------------------------
 * Read Act comma delimited database, created reformatted data
 * Write out formatted file for use in VisPro/Reports
 *-------------------------------------------------------------
 */
line = linein(infile)
first = 1
```

Listing 2 continued on p. 53

Samples reports

Usually samples, such as programs and reports, are very useful when learning a new product. VisPro/Reports ships with 10 sample reports and customized REXX programs to print them. The best samples you can use for tutorials include Salary, which is a salary report demonstrating summation and group totalling features (see Figure 1); Letter, which is a form letter report demonstrating print merge features; and DB2/2, which is also a salary report, but demonstrates getting data from an external database system, namely DB2/2. Other samples can be more confusing, but demonstrate essential programming techniques.

One of the most important samples, Labels, is a very poor demonstration. It is a report that prints name and address labels (see Figure 2). The labels sample works, but uses contrived data that fails to demonstrate critical real-world usage. Given that HockWare's target market for this product consists of programmers, they probably assume that most programmers can fix these simple and somewhat incomplete samples. A non-programmer will have a difficult time understanding the mechanics of this product. Had HockWare made some additional effort in sprucing up the samples, they could have brought this product to a wider audience.

REXX database access

You don't need databases to use VisPro/Reports, but most of your useful reports will be generated from data that resides in databases. The previously mentioned Labels sample is very useful for a report writing program, but the sample provided did not retrieve data from a database; it instead made up data for the sample.

From the programmer's perspective (but not the business user's), REXX is actually a good choice for VisPro/Reports, because it is a powerful, logical language that is already built into OS/2. It is also a good language because database products can allow access directly from REXX. IBM's DB2/2 database product is one example of a product that is fully accessible from REXX.

To test out VisPro/Reports, I attempted to update the Labels sample to print name and address labels from data stored in an Act database. Symantec's Act for Windows is a good product for keeping contact information (names, addresses, and so on). Unfortunately, this database was not directly accessible from REXX. In order to print out labels using this data, I needed to reformat the information contained in the database. Listing 2 contains the REXX program that will read a comma-delimited text file from Act and produce a reformatted file that can be used in a VisPro/Reports REXX program to produce mailing labels. Although this example is somewhat long, it demonstrates the power of REXX when used with VisPro/Reports.

Listing 2: REXX Program to read Act database. (cont'd)

```
incount = 1
do while lines(infile) <> 0

  i = 0
  do i=i+1
     k = pos('",',line)
     if k = 0 then leave
     name = substr(line,1,k)
     name = strip(name,'B','"')
     line = substr(line,k+2)

     if first = 1 then do        /* Special procesing for   */
        keepstem.0 = keepstem.0 + 1  /* first record includes   */

        keepstem.i = name         /* saving database field   */
        end                  /* names (such as 'Name',   */
     else do                 /* 'Address', 'Phone', etc.) */
        namestem.0 = namestem.0 + 1
        namestem.i = name
        end
     end
/*
 *---------------------------------------------------------------
 *  Process each database field for this record
 *---------------------------------------------------------------
 */
  first = 0
  do i = 1 to namestem.0
     if namestem.i = '' then iterate
     name = keepstem.i
     if exclude.name = 1 then iterate
     out = 'Data.'incount'.'left(keepstem.i,12,' ') '=' '"'namestem.i'"'
     rc = lineout(outfile,out)
     outcount = outcount + 1
     end

  out = 'Comment' '='
'"----------------------------------------"'
  rc = lineout(outfile,out)
  line = linein(infile)
  incount = incount + 1
  end
/*
 *---------------------------------------------------------------
 *  Close up shop
 *---------------------------------------------------------------
 */
rc = stream(infile, 'C', 'CLOSE')
rc = stream(outfile, 'C', 'CLOSE')

say 'Input record count.....................' right(incount,9)
say 'Output record count....................' right(outcount,9)
exit 0
```

Bottom line

HockWare has created a powerful and capable REXX-enabled report-writing product for OS/2. It's evident from the terse documentation and simple tutorial samples that their target market is the REXX programmer. If you are comfortable with writing, modifying, and running REXX programs, this product is very usable. You don't need to be a REXX expert, but you should understand registering, loading, and calling external functions (DLLs), as well as be well-versed in REXX's programming structures, such as stem variables (*data.0*, *data.name*, and *data.address*).

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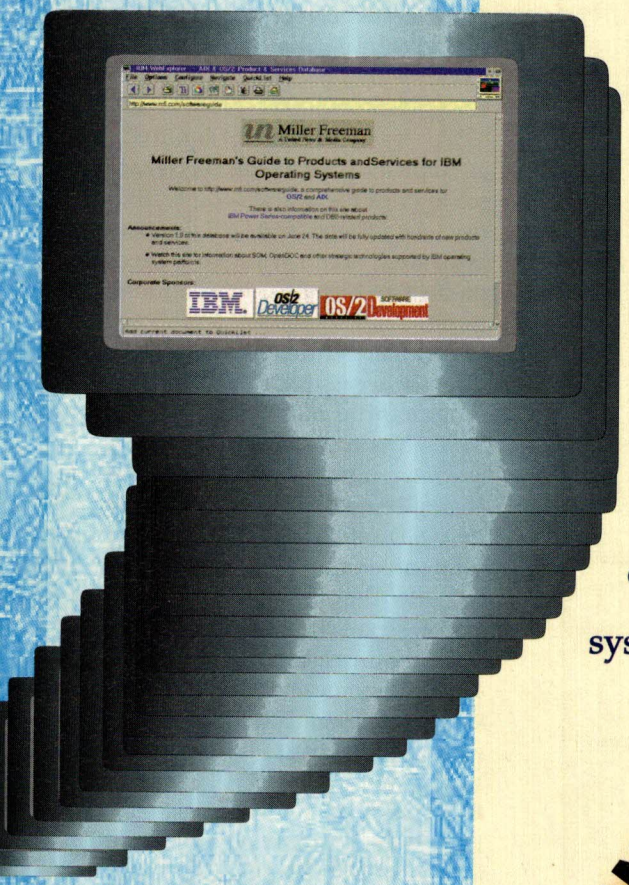

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If you do not consider yourself to be REXX savvy and have a business need for nice looking reports, you have a couple of options. The first is to hire an OS/2 REXX programmer to help you set up VisPro/Reports. The second is to learn REXX yourself. OS/2 includes a very complete REXX *.inf* file that you can view by using the **view rexx.inf** command from an OS/2 command line. Even better, get a book that will actually teach and tutor you in REXX as a language; many are available, and several have been reviewed by *OS/2 Magazine* in recent issues.

With a slight amount of work, HockWare could turn VisPro/Reports into a more user-friendly product, useful for the non-programming business user. Add more comprehensive samples, create a good tutorial, and provide some basic beginner REXX information, and it would be a truly great product for an expanded marketplace. In its present form, it is still a good product, but for accomplished programmers only.

RESOURCES:

VisPro/Reports v1.0 ($159)
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Rick Kruer is a computer consultant, college instructor, and a writer, with an extensive background in systems development on large mainframe computers. He is now moving on to various platforms with his company, Computer Miracles. Rick can be reached via e-mail at rick@computer-miracles.com or 74147.3230@compuserve.com.

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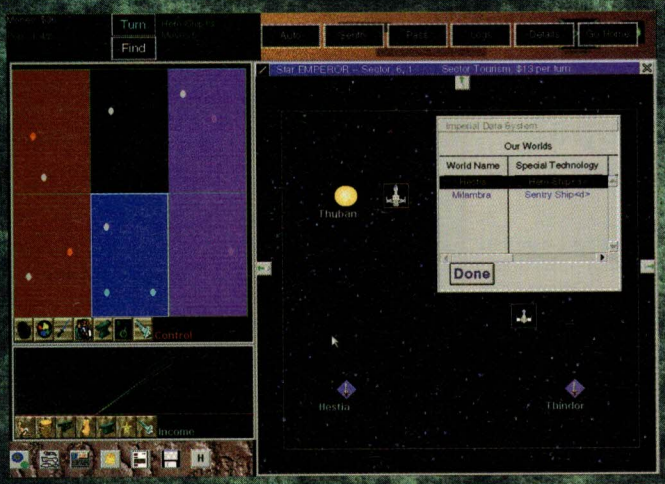

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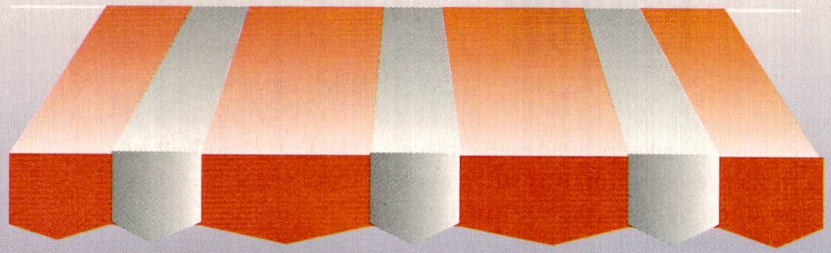

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Three Web Servers to Explore

Freeware servers for the World Wide Web. BY STEVE GALLAGHER

All of the hype and excitement surrounding the World Wide Web might lead you to believe that building a Web server is a nightmarish undertaking probably not worth the grief. While getting a Web server up and running is no walk in the park, it doesn't have to be an exercise in suffering and pain. First, let's explore what a Web server is and does.

A Web server is a computer that is configured to host Web pages. It's just that simple. From the perspective of the user pointing a browser at the pages, the Web server is the site where the pages reside. From a back-end perspective, a Web server is running something called HTTP, the HyperText Transport Protocol. HTTP is a TCP/IP daemon, a process that runs on top of TCP/IP and waits patiently to be invoked. Let's assume you have a high-powered machine that runs OS/2 Warp and TCP/IP. Turning this machine into a web server is as simple as installing and configuring an HTTP daemon and advertising its existence to the world.

Like TCP/IP itself, HTTP is not a product. Rather, it is a protocol, a specification, a description of an idealized piece of software that says, in effect, "if you write a piece of software that strictly adheres to this specification, it is guaranteed to be able to talk to any other program, on any other platform that also strictly adheres to the specification." This generic quality is a major part of the power of the Internet and the World Wide Web. The down side is that it is often difficult for a particular implementation to differentiate itself from the rest of the pack.

Three freeware OS/2-based HTTP contenders exist. Let's take a look at each of them and hopefully give you enough insight to make an intelligent assessment of which one is right for you. This article, by the way, assumes that you have some background in the World Wide Web, and in the HTML (HyperText Markup Language) used to write Web pages.

OS2HTTPD

The granddaddy of all OS/2 implementations is OS2HTTPD, developed by Frankie Fan (*kfan@netcom.com*). This freeware implementation is a faithful port of the venerable NCSA HTTP implementation for UNIX. OS2HTTPD supports most of the original NCSA version that Internet bit-twiddlers have come to love. It is compatible with most HTTP version 0.9 and 1.0 browsers and supports Common Gateway Interface (CGI) back-end scripts, as well as the traditional NCSA server scripts. Forms support is solid (supporting both METHOD=GET and METHOD=POST), and of course support for clickable image maps is included.

If you are the lucky soul in your organization charged with the task of administering your OS/2-based Web server, you will be glad to know that OS2HTTPD supports many of the back-end features that your friends in the UNIX community are always touting: a unified directory structure, the ability to build directory indexes on the fly, access control on a per-directory basis, and server-side includes.

If you're fuzzy on some of those concepts, take heart from the fact that the OS2HTTPD file came with an unexpected surprise: a truly massive volume of documentation, all of it in HTML format. Simply point Web Explorer at *index.htm* and follow the links to the detailed technical information you need. This user-friendly wealth of documentation is a welcome change from most implementations of TCP/IP daemons, which are based on the user-hostile principle that seems to say: "If you are not enough of a TCP/IP guru to get this running without any docs, then you ought not be playing with it in the first place."

The one overriding concern I have with OS2HTTPD is the fact that it seems to have been cut loose on the Internet and left to its own devices. The last date on any of the source files is August 12, 1994 — back in prehistoric times. With the frenetic pace of change in Web technology (it seems like there's a new beta drop of the Web Explorer every other week to keep it synchronized with new technology, such as HTML version 3.0). The fact that I was unable to find a newer release anywhere on the Internet concerns me. Of course, the source code is included, but then, not all of us are IP-literate bit-hammering C coders, are we? In short, it's a solid Web server that's fallen behind the times.

The Power Server

OS2WWW, also known as The Power Server, was developed by Compusource (*source@iaccess.za*) as a plug-in replacement for OS2HTTPD. The freeware beta I evaluated had files dating from March 1995, which suggests it has been written to bring the user a lot closer to the current state of the art. The *readme* file also proclaims that OS2WWW has vastly improved performance throughput (to the tune of 350%), especially under high-load conditions. My only gripe with this claim is that nowhere did I see any documentation on how I might run benchmarks to clock the throughput

improvements myself.

You will find all of the features from OS2HTTPD included here, as one would expect from an implementation that positions itself as "OS2HTTPD... and more": forms and CGI support; directory index generation; image map support; access control, as well as the ability to move documents without affecting references in other documents; and the use of aliases to emulate a unified directory structure.

OS2WWW has value beyond being a clone of the NCSA implementation. For one thing, it is written to take advantage of OS/2 multithreading — something more programmers who code to OS/2 would do well to emulate. The documentation that, in keeping with "The TCP/IP Philosophy," is both Spartan and scarce, states that installation is easy; I would be more inclined to suggest the old adage that "anything is easy, once you know what you're doing." You can pull usage and performance statistics while the server is up and running, and a solid set of request and response files are available for problem tracking and resolution.

OS2WWW allows long HPFS file names, as well as traditional FAT "eight dot three" filenames. If a user specifies, a long file name will be automatically handed the FAT equivalent, if you have OS2WWW running on FAT. CGI scripts can be written in REXX as well as any compilable language supported under OS/2.

Judging by a communiqué I received from Compusource, the OS2WWW beta I evaluated sounds to be just the tip of what promises to be a very interesting iceberg. By the time you read this article, their commercial Scream version should be available. The Scream Power Server will be a complete, object-oriented rewrite, utilizing C++. In addition to offering HTTPD, they also plan to offer FTP, GOPHER, SMTP, and POP3. Compusource's communiqué suggested possible performance improvements on the order of 20 times faster retrieval of documents; SSL security; proxy server capability; a server extension API (superset of Netscape's NSAPI) for "rolling your own" capability for all delivered daemons, not just HTTPD; and unified security and configuration across all services. Not too shabby, if the price is right.

GOSERV HTTPD

GOSERV HTTPD is IBM's freeware offering, one of the excellent tools released to the public domain under IBM's Employee Written Software (EWS) program. The HTTPD capability rides on top of the venerable Gopher Server program instead of being a stand-alone program. The big advantage of GOSERV HTTPD is the painless graphical user interface you use to set up the daemon.

Of the three Web servers, GOSERV HTTPD is hands-down the most user-friendly of the lot. You will never have to touch one of those ugly HTTPD configuration files, or even know that they exist; a definite pleasure for those who do not live to hack arcane command switches in obscure and non-intuitive files. GOSERV HTTPD was developed by IBM's Mike Cowlishaw, and as you would expect from the man who invented REXX, integration of REXX scripting is easy. In addition to ease of use, tying in REXX back-end scripts is surprisingly fast, given that REXX is an interpreted language. This speed is due to the fact that OS/2 REXX is loaded up in the same thread as the TCP/IP connection, eliminating much cycle-chewing overhead. While this architecture will cut down cycles, I find myself wondering how this REXX-centric method would scale under a solid, non-stop load, compared to using compiled code.

Which to choose?

Of the three implementations I evaluated, none screamed "hands-down winner!" OS2HTTPD has the advantage of shipping with a solid package of HTML-based documentation, something you will definitely need unless you are an experienced TCP/IP configuration wonk. On the down side, the sheer age of the implementation (a year is a lifetime in the Web world) makes me just a bit nervous. You could, of course, grab OS2HTTPD, keep the documentation, and toss the rest.

The folks who built OS2WWW seem to have some pretty slick plans, and if they can deliver on their promised commercial version, at a price that isn't ludicrous, it will be something worth looking at. On the flip side of the coin, the documentation and interface (or lack thereof) are unforgiving; this implementation seems geared more towards UNIX administrators than OS/2 administrators (who are used to the graphical interfaces that ship with OS/2 networking and internetworking products).

As for GOSERV HTTPD? It's a slick, easy-to-use tool, much more in keeping with the graphical-oriented OS/2 paradigm. You should beware, however, that it is EWS freeware, and the way IBM's EWS program works is this: if the author leaves IBM, or just plain gets bored with maintaining the thing, the tool rots on the vine.

Steve Gallagher is president of G&A Consultants, an OS/2 consulting firm headquartered in Research Triangle Park, N.C. He can be reached via e-mail at ganda@ibm.net.

RESOURCES:

OS2HTTPD
Frankie Fan
kfan@network.com
READER SERVICE NO. 192

The Power Server
Compusource
source@iaccess.za
READER SERVICE NO. 193

GOSERVE
Mike Cowlishaw
Mfc@vnet.ibm.com
READER SERVICE NO. 194

Windows 95 and Your OS/2 Network

CONNECTING WINDOWS 95 AND OS/2 WARP CONNECT CLIENTS TO A LAN SERVER. BY WAYNE RASH, JR.

If you're like me, you've probably reached the point at which you've started looking for a Microsoft logo whenever you glance into a blue sky with a few puffy clouds. There's no question about it, Windows 95 is here, and it's here in a big way. Fortunately for most OS/2 network administrators, Windows 95 is more of an opportunity than a problem.

Networking is a real part of Windows 95, unlike earlier versions of Windows in which the network client was at best a poorly integrated add-on. More importantly, the client software that ships with Windows 95 works well with OS/2. In addition, Windows 95 will eventually cause fewer headaches for system administrators because it's more stable than previous versions. While Windows 95 isn't crashproof (no operating system is), it doesn't have as many of the more crash-prone problems that plagued Windows and Windows for Workgroups.

Most important, at least for our purposes here, is the fact that network drivers work better with Windows 95 — at least most of the time. And we'll have even fewer weird driver problems once the 32-bit drivers are available. On the other hand, it's not exactly utopia. Most real 32-bit code is a long ways off, so you'll still have to contend with limits on memory and other hold-overs from the bad old days of DOS.

At least for a while, some network drivers will still be 16-bit code and will have to run in DOS memory, especially the software that works with network interface cards. This can lead to the memory conflict problems you thought were over when you started using OS/2 or Windows 95. Eventually, it will change, but even then, using Windows 95 on your OS/2 network might be a challenge.

The OS/2 connection

On one hand, OS/2 and Windows 95 mostly speak the same language. Their native means of communication is through NetBIOS. In addition, both operating systems can conduct network sessions using TCP/IP. So far, so good, but problems show up because network communications require more than just a common ground. They also require a common method of establishing communications — that's the challenge.

Think of these scenarios. You have a network based on OS/2 LAN Server and you want to use Windows 95 as a client. Or, you have OS/2 Warp Connect and want to communicate with Windows 95 as another peer. You might even have OS/2 Warp Server, which would allow both peer and server connections, as well as support a Novell NetWare gateway. Each of these three approaches demands a somewhat different method for integrating Windows 95 into your OS/2 network.

LAN Server

The first thing to remember about LAN Server is that Windows 95 can't see it unless you tell it it's there, because of something called *browsing*. Browsing is how Windows 95, Windows for Workgroups, and OS/2 Warp Connect determine whether there's a resource on the network with which they can communicate.

Normally, when a Microsoft workstation is asked to look for network resources with which to communicate, the workstation sends out a query to which network resources respond. After a few seconds, this process results in a list of the machines running compatible software packages. For example, a Windows 95 workstation won't have any trouble seeing a Windows NT server.

With OS/2, the problem is somewhat more difficult to resolve. LAN Server responds to browsing requests from OS/2 machines, but not to Windows 95 or other Windows versions. To get this function to work, you have to know the name of the domain that your LAN Server is using and manually enter the information.

One way to enter information manually is to click on the Windows 95 Start button, select Programs and MS-DOS prompt. Once you're at the DOS prompt, type a command, such as **net view \\server_name** and the server will appear — if you have the name right. If it doesn't, you might need to check and make sure that the domain information is correct with Windows 95. You can do this by entering the Network applet, which is in the Control Panel, which in turn, is in the My Computer group on the desktop.

Once you've connected with LAN Server for the first time, you can then map the connection, which tells Windows 95 to automatically reconnect each time you start Windows. As a result, you'll only have to manually start the process once.

OS/2 Warp Connect

Life is easier with OS/2 Warp Connect. IBM designed the latest version of its desktop operating system with interoperability in mind. All you need to do to

communicate between Windows 95 and OS/2 Warp Connect is enable peer networking in OS/2 Warp. Once you've done that, you only need to browse for the connection from the peer that makes the connection.

From Windows 95, browsing means using the Network Neighborhood icon on the desktop. When you double-click on that icon, the first thing Windows 95 does is search for all network resources, which it then displays on the screen in a hierarchical tree display. OS/2 Warp Connect will appear under the Microsoft Network heading, along with the name of the workstation you're using and the names of any other NetBIOS devices visible to Windows 95.

Network browsing, incidentally, looks for *all* network activity, so browsing can take some time on a large network. It will also show complete information for every network for which the Windows 95 station is set up. Along with your OS/2 Warp Connect peer, for example, you might see Novell NetWare, Windows NT, or UNIX servers. To see the devices that exist for each type of networking, you can double-click on each network type to expand the tree.

Finally, if you want to make your Windows 95 machine accessible to OS/2 Warp Connect, enable *sharing* in Windows. You do this by first enabling sharing in the Network Neighborhood icon mentioned above and, in the Windows Explorer, choosing which assets you want to share. Open the Explorer, place the mouse pointer over the file you want to share, and right-click. This opens a properties dialogue box that lets you enable sharing.

OS/2 Warp Server

We looked at a very early pre-release version of OS/2 Warp Server and found that it's designed to work with Windows 95. In fact, it comes with a special Windows 95 client that helps integrate Windows into OS/2 networking even more tightly than before. While you can still use the built-in Microsoft networking, as you could with LAN Server, the new client software will add a number of useful functions to Windows 95 and will make the OS/2 network access essentially automatic.

Unfortunately, at press time it was too early to give you a detailed look at OS/2 Warp Server and its Windows 95 client, so we'll have to save it for some future issue. In the meantime, you can be confident that Windows 95 can already fit seamlessly into much of your OS/2 network environment, and within a couple of months, the fit will be nearly perfect. In fact, with the new software coming from IBM and the significant improvements in stability delivered by Microsoft in Windows 95, the next few months could do much to make life easier for administrators on OS/2 networks.

Wayne Rash, Jr. is a contributing editor and columnist for Communications Week. He's based in Washington DC and edits technology sections for The Washington Post. Mr. Rash can be reached at rash@access.digex.net or CompuServe 72205,221.

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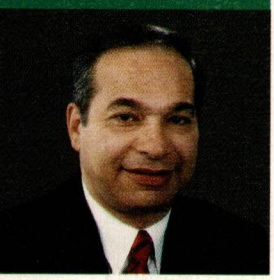

Where goest my True Type Fonts?

ALL ABOUT THE WIN_ATM OBJECT SETTING.

BY DICK GORAN

Many OS/2 users have found that they can no longer use their True Type fonts under WIN-OS/2. The remedy is very simple, just change the WIN_ATM setting in the Settings Notebook for the WIN-OS/2 object in question. The OS/2 Warp default has WIN_ATM set to off (see Figure 1). If there are just one or two objects that require this setting to be changed, it is not a very time consuming or difficult task. However, if you have a great deal of these WIN-OS/2 program objects, it could be a laborious task to change each of these objects manually. Here is the tie-in between these object's settings and this column, which is primarily devoted to REXX. This column might get a little more technical than many of you would like, but the end result will provide you with the knowledge and the capability to create your own REXX program to enable the WIN_ATM setting for all of your WIN-OS/2 program objects. If the details bore you, you can simply download the finished product (*winatmon.zip*) and run it on your system.

REXXUTIL, the function package that is part of the standard OS/2 REXX package and contains all of the commonly known functions that

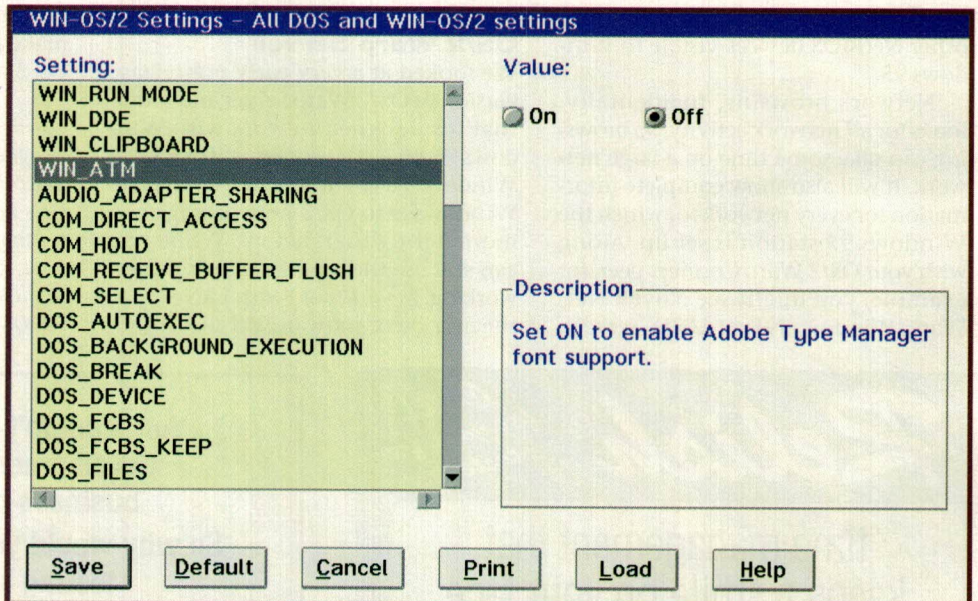

Figure 1: The WIN-ATM setting in the Settings Notebook.

Fragment 1: RxfuncAdd( )

```
if RxFuncQuery( 'SysLoadFuncs' ) \= 0 then
   do
      call RxFuncAdd 'SysLoadFuncs', 'REXXUTIL', 'SysLoadFuncs'
      call SysLoadFuncs
   end

if RxFuncQuery( 'rexxlibregister' ) \= 0 then
   do
      call RxFuncAdd 'REXXLibRegsiter', 'REXXLIB', 'rexxlibregister'
      call REXXLibRegister
   end

if RxFuncQuery( 'WPToolsLoadFuncs' ) \= 0 then
   do
      call RxFuncAdd 'WPToolsLoadFuncs', 'WPTOOLS', 'WPToolsLoad-
Funcs'
      call WPToolsLoadFuncs
   end
```

Fragment 2: WIN-OS/2 PROGTYPE Values.

```
/*-------------------------------*\
|  Output file is program name .TXT  |
\*-------------------------------*/
GBL.output_file =,
       GBL.program_path ||,
       fGBL.program_fn || '.TXT'
call SysFileDelete GBL.output_file
/*-------------------------*\
|  Windows PROGTYPE= values  |
\*-------------------------*/
windows_progtype_list =,
       'PROG_31_ENH',
       'PROG_31_ENHSEAMLESSCOMMON',
       'PROG_31_ENHSEAMLESSVDM',
       'SEPARATEWIN',
       'WIN',
       'WINDOWEDWIN',
       ''
```

begin with **Sys**, provides the capability to create and modify Workplace Shell (WPS) objects, but has no ability to query objects about their settings or other properties. This limitation was overcome by Development Technology's DeskMan/2 commercial product, but DeskMan/2 was not intended as a user Application Program Interface (API) to allow user's to interrogate WPS objects from within their own REXX programs. Fortunately, an API written by Henk Kelder of the Netherlands, is available free of charge, which provides this capability. Kelder's package is available on most OS/2 repositories, including the REXX site located at *<http://www.cfsrexx.com/pub>*, as file *wptool16.zip* (though the 16 might have grown to 17 or more by the time this column reaches you).

Another capability that is needed is the ability to reference WPS objects by their handle (a persistent object identity whose explanation goes beyond the scope of this column). This function is provided in Quercus Systems's REXXLIB API.

The REXXUTIL functions require that all object manipulation is done with reference to an object ID, or by the full file-system name for file-system objects (directories and files). An object ID is a string of characters bounded by

Fragment 3: INI file processing.

```
/*--------------------------------------*\
|  Get list of object handles from OS2.INI  |
\*--------------------------------------*/
app = 'PM_Abstract:Objects'
call SysIni 'USER', app, 'ALL:', 'handle_stem'
if handle_stem.0 = 0 then
     do
          say '   Unable to locate '        ||,
               app                          ||,
               ' in '                       ||,
               VALUE( 'USER_INI',, 'OS2ENVIRONMENT' )
          call EOJ
     end
/*--------------------------------------*\
|  Process each PM_Abstract:Object entry  |
\*--------------------------------------*/
do h = 1 to handle_stem.0
     hex_handle = handle_stem.h
     dec_handle = X2D( '2' || RIGHT( hex_handle, 4, '0' ) )
     /*---------------------------*\
     |  Process each program object  |
     \*---------------------------*/
     hex_handle_string = '#2' || RIGHT( hex_handle, 4, '0' )
     call WPToolsQueryObject hex_handle_string,,
                             'class',,
                             'title',,
                             'setup_string',,
                             'location'
     if RESULT = 0 then
          do
               say    '   WPToolsQueryObject was unsuccessful for object '
||,
                      hex_handle_string
||,
                      ' object ignored.'
               iterate h               /* ignore this object */
          end
```

Fragment 3 (Cont'd)

```
     /*-----------------------------------------------------*\
     |  Identify Windows or WIN-OS/2 programs via PROGTYPE=  |
     \*-----------------------------------------------------*/
     parse value setup_string with,
          'PROGTYPE=',
          object_progtype,
          ';'
     if object_progtype = '' then
          do
               iterate h                /* ignore this object */
          end

     /* See if PROGTYPE value is in table */
     if WORDPOS( object_progtype, windows_progtype_list ) = 0 then
          do
               iterate h                /* ignore this object */
          end
   /*--------------------------------------*\
   |  Ignore object if WIN_ATM=1 already set  |
   \*--------------------------------------*/
     win_atm_search_arg = 'WIN_ATM='
     win_atm_ptr        = POS( win_atm_search_arg, setup_string )
     if win_atm_ptr > 0 then
          do
               win_atm_value =,
                      SUBSTR(  setup_string,,
                               win_atm_ptr + LENGTH(win_atm_search_arg),,
                               1 )
               if win_atm_value = 1 then
                      do
                        iterate h          /* ignore this object */
                      end
          end
          call UPDATE_SETUP_STRING

end
call STREAM GBL.output_file, 'C', 'CLOSE'
call EOJ 0

/*-------------------------------------------------------------*\
|                                                               |
|             Subroutine to update object's setup string        |
|                                                               |
\*-------------------------------------------------------------*/
UPDATE_SETUP_STRING:

output_line =,
     LEFT( title,    18 ),
     LEFT( location, 25 ),
     setup_string
call LINEOUT GBL.output_file, output_line

call WPSSetObjectData dec_handle, 'SET WIN_ATM=1;'
if RESULT \= 1 then
     do
          say  '   Unable to update setup string for '     ||,
               title                                       ||,
               ' (' || hex_handle_string || ')'
     end
return
```

less than (<) and greater than (>) characters, respectively, and normally assigned to a WPS object when that object is created. If a non-file-system object (an abstract object) is created without an object ID, the standard REXXUTIL functions cannot be used to reference that object. However, all objects have a persistent identity—the handle. The REXXLIB extensions provide the capability of altering an object's settings by referencing the object by its handle,

even to the point of allowing an object ID to be assigned to any object previously created without one. Most of the WPS objects for WIN-OS/2 programs fall into this category—they were created with an object ID.

Overall steps

The APIs required are included in the files *rexxutil.dll*, *rexxlib.dll*, and *wptools.dll*. They are registered using the built-in REXX **RxFuncAdd()** function (see fragment 1). These DLLs must be in a directory that is named in the LIBPATH statement in *config.sys*, they must reside in a directory named in a **BeginLibPath** or **EndLibPath** environment variable, or reside in the same directory of the calling program (presuming that ".;" is included in the LIBPATH statement).

An output file is defined so that a record can be made of all of the WIN-OS/2 objects that are changed. The output file name is built from the path and file name of the calling program with a file extension of *txt*, for example, *winatmon.txt*.

All WIN-OS/2 objects will have a program type selected from one of the following types: **PROG_31_ENH, PROG_31_ENHSEAMLESSCOMMON, PROG_31_ENHSEAMLESSVDM, SEPARATEWIN, WIN, WINDOWEDWIN.** By interrogating all of the WPS program objects that are included in the PM_Abstract:Objects section of the *os2.ini* file, and if you ignore those that do not have a **PROGTYPE=** value included in the above list, we are left with all of the WIN-OS/2 program objects (refer to fragment 2).

Ignoring those objects that already have a setting of **WIN_ATM=1;**, we are left with only those objects that are to be modified. As we have the object's handle from the data retrieved from the *os2.ini* file, and REXXLIB has been extended to allow an object's setup string to be altered by using the file's object handle as its identifier, we simply have to supply a setup string of **WIN_ATM=1;** to effect the desired change (see fragment 3).

RESOURCES

***Winatmon.Zip* (free for download)**
CompuServe, OS2AVEN, Lib 2
<http://www.cfsrexx.com/pub/winatmon.zip>
READER SERVICE NO. 195

REXXLIB - OS/2 REXX API ($20 - $50)
Quercus Systems
P.O. Box 2157
Saratoga, CA 95070
(408) 867-7399
Fax:(408) 867-7489
BBS: (408) 867-7488
CompuServe: *PCVENA, Sec 11 (Charles Daney 75300,2450)*
READER SERVICE NO. 196

Dick Goran is the author of the REXX Reference Summary Handbook. He has worked in the computer industry since 1961 and was in the IBM mainframe systems software development business until 1987. He teaches OS/2 REXX to corporate clients and lectures on OS/2. His free REXX utility programs can be downloaded from OS2DF1, Lib 6 on CompuServe. These programs are also located at ftp://ftp.cfsrexx.com/pub. He can be reached via the internet at 71154.2002 @compuserve.com.

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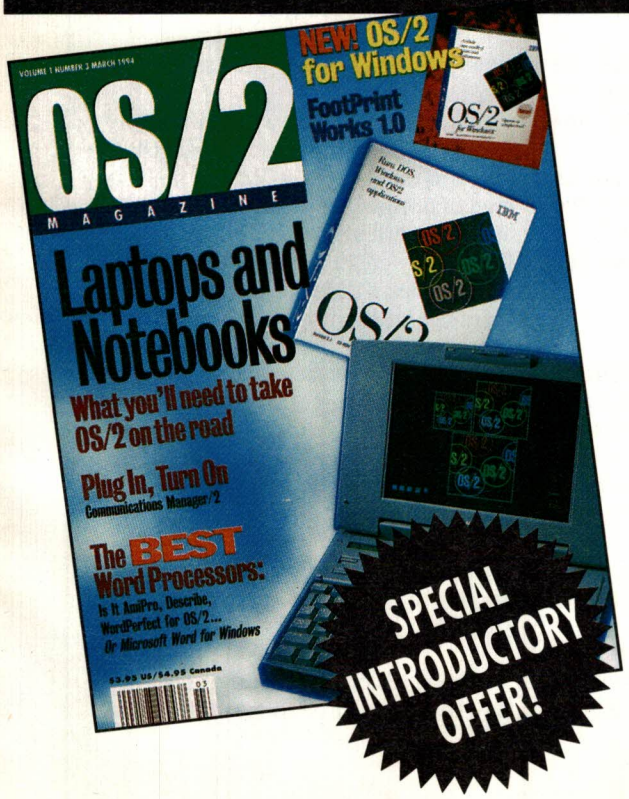
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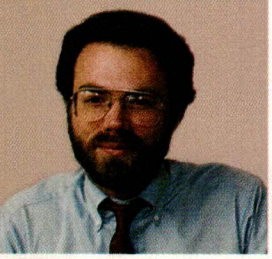


The Poor Person's CID Install

THE NEXT TIME YOU INSTALL OS/2, USE YOUR HARD DISK OR NETWORK INSTEAD OF A CD-ROM. BY MARK MINASI

While it would be nice to simply install OS/2 once and forget about it, I find that I need to install every new version at least a few times before I'm really happy with it. And, once I've got it installed, I usually end up reinstalling it monthly. Mind you, that's not because of any problem with OS/2; it's because I evaluate a great deal of software, and as you've no doubt seen, programs tend to leave messes and rarely do they clean up after themselves. Uninstalling OS/2 programs can often be impossible; you never know if that mysterious crash was due to a hardware problem, a basic OS/2 bug, or some DLL that a third-party application left behind.

The bottom line is that I need to install OS/2 simply and quickly. It's always annoyed me that you can install Windows 3.x, Windows 95, or Windows NT simply by copying the binaries to a directory (well, a really large directory) on a hard disk, changing over to that hard disk, and typing **setup** — but you can't do that with OS/2.

Nowadays everyone has a network, so a simple network-based setup system would be nice. CD-ROM installations are also nice. For example, PCs that can optionally boot from CD-ROM drives — but not all of my machines have CD-ROMs yet. (Let's not even talk about floppy-based installs.) Yes, network-based and CD-ROM-based installations are terrific, but again, hard disk space is cheap and plentiful, so it would be inviting to copy the compressed binaries to a network directory and install from there.

Nowadays everyone has a network, so a simple network-based setup system would be nice.

It turns out that you can, and it's helped me a number of times — even on machines with CD-ROMs. This technique allows me to copy files off the CD-ROM under DOS and run the OS/2 installation almost entirely (except for two floppies) off the hard disk.

The OS/2 expert types that I talk to all seem to know this method, but I've never seen it written up in the OS/2 expert books (including mine), so let's take a look at it.

Check the directory

If you look at the directory structure of the CD-ROM for OS/2 Warp Connect, you'll see, among others, a directory called *os2image*; OS/2 has included such a directory since it first became available on CD-ROM. It contains directories named *disk_0*, *disk_1*, *disk_2*, and so on, up to *disk_15*, after which is *disp_1* through *disp_4*, *pmdd_1* through *pmdd_5*, and *sym_1* through *sym_5*. As you can probably guess, these directories correspond to the Installation disk (DISK_0), the regular installation disks, the Presentation Manager Display Driver disks, and the Symbol disks. They are not simply images of the disks themselves, as the disks use an extra compression step, but they are enough to do an installation from.

The first step in making installations easy is to copy the *os2image* directory to your hard disk. By the way, that hard disk must be FAT-formatted. You'll want to keep the entire directory structure exactly as it exists on the CD-ROM. The easiest way to do this is with an **xcopy /s** command. For example, if your CD-ROM were drive *z:*, and you wanted to put the setup files on drive *d:*, you would type:

```
XCOPY Z:\OS2IMAGE D: /S
```

You'll then have the whole directory (it's about 50MB) on a local hard disk. If you don't have a CD-ROM, but do have a set of floppies, you'll also need to create these disk images on the hard disk. Don't only create directories and copy the floppies; a little helper utility called Seimage will guide you through the process.

Start off by creating the directory that you want to put the OS/2 images in. Then, get the *seimage.exe* program (in my OS/2 Warp floppy pile it's on disk 7). You've got to uncompress it with the Unpack program, using the following command:

```
unpack a:\cid d:\os2image
/n:seimage.exe
```

I hope it's obvious, but I'll say anyway that you have to run this com-

mand from inside OS/2; Unpack won't work otherwise, and neither will Seimage. Also, note the syntax on the Unpack command, as it's a mite non-intuitive. Seimage will then lead you through the process of creating the directories. Make sure you have a good book around and type:

```
SEIMAGE /s:A: /T:D:\OS2IMAGE
```

Building floppies

The next step is to create a pair of floppies that will be used to start up the installation process and then direct the installation process to the hard disk, rather than to the CD-ROM or the floppy drive. Your OS/2 package came with an Installation Disk and a Disk 1; you'll have to modify the *config.sys* on Disk 1 to direct the setup process to look to your hard disk for its files.

Before you perform this action, make sure that the disk you're modifying is Disk 1 for a floppy installation, not a CD-ROM installation. If you have the CD-ROM package, Disk 1 isn't the right one, but that's fixable. The CD-ROM contains images of all of the OS/2 installation floppies, as well as a program that allows you to make floppy disks from those images. Assuming that your CD-ROM is drive *z:*, you'd put a blank formatted 1.44MB floppy disk into drive *a:* and type:

```
z:\diskimgs\xdfcopy
z:\diskimgs\os2\35\disk1.dsk a:
```

Follow the instructions and you'll have a mint-condition Disk 1. This is a terrific little utility, as I'm forever misplacing my Installation Disks and Disk 1s — this lets me easily replace them. The **xdfcopy** utility will make up any of the OS/2 disks from the CD-ROM; the images are all in *\diskimgs\os2\35*. This utility works under a DOS prompt as well as an OS/2 command prompt.

If you have the floppy version of OS/2, please don't edit the original Disk 1; use **diskcopy** to make a copy of it and edit the copy.

Set the path

Next, edit the *config.sys* file on your Disk 1. The **PATH=** and **DPATH=** statement in *config.sys* appear as follows:

```
set path=\;\os2;\os2\os2\sys-
tem;os2\install
set
dpath=\;\os2;\os2\os2\sys-
tem;os2\install
```

Next, add the source directory (*d:\os2image,* in my example) to the front of both statements so that they appear as follows:

```
set
path=d:\os2image;\;\os2;\os2\
os2\system;os2\install
set
dpath=d:\os2image;\;\os2;\os2
\os2\system;os2\install
```

Then, add a new line to *config.sys*; it can go anywhere:

```
set sourcepath=d:\os2image
```

Again, change the **d:\os2image** reference to wherever you put your files. Now, simply boot from the Install Disk and, when it asks for Disk 1, give it the doctored Disk 1. The system will install from your hard disk directories without a hitch.

CID on a budget

What you've done here is kind of a poor person's Configuration, Installation and Distribution (CID). CID is IBM's method for making OS/2 easy to install on large numbers of workstations. You put the directory of disk images (**d:\os2image,** in my example) on a server. You boot a very simple network client/redirector that has just enough code to get you onto the server. And, by the way, the server needn't be an OS/2 LAN Server — other server types work as well. You pull the disk images off the server and install onto your local hard disk; the result being that an OS/2 support person can get a networked user up and running on OS/2 with just two floppies, instead of a whole backpack of them. CID incorporates REXX as well, so you can add REXX scripts to allow installation of more than just the base OS/2 package. For more about CID, see "Make It Up in Volume" (July 1994, p.39) and "Breaking the 80/20 Rule with CID" (Jan. 1995, p.33).

Simple response

That leaves one more thing to do to make these re-installations simple: answer all the dumb questions.

With OS/2, you can create a response file, which is an ASCII file that contains the answers to any and all installation questions. You can find a complete response file, with all the possible options, legal values for those options, and even documenting comments, in an *os2\install* directory on any computer that's running OS/2. Or, there's one in the *cid\os2\exe* directory on the CD-ROM. In either case, the file is called *sample.rsp*.

You tell OS/2 to use a response file when setting up by finding this line in the *config.sys* of Disk 1:

```
set os2_shell=sysinst2.exe
```

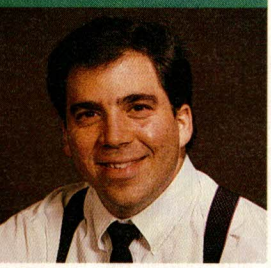
and changing it to:

```
set os2_shell rspinst.exe rfile.RSP,
```

You can find the *rspinst.exe* file in the same directory as *sample.rsp*, and *rfile.rsp,* which is the name of the response file. You must make sure that *rspinst.exe* is on Disk 1 before this will work; it's not by default, and at over 300K, it's big. I made room for it by getting rid of *fdisk.exe* (this assumes that you won't need to do partitioning for your installation, and that you'll install to *c:*) and *sysinst2.exe*. Or, you can put it on the *c:* drive and add a full file specification. It will work fine, as long as you're not formatting the hard disk during installation.

Finally, if building your own response file sounds like too much work prior to re-installing, look in *os2\install* and you'll find *user.rsp*. It's a ready-made response file built from the options you chose the last time you installed OS/2. Neat, eh? Now you can show your Windows 95-using friends how much easier installing OS/2 Warp Connect is — best of all, it'll work for any version of OS/2 since 2.1.

Mark Minasi has been a consultant and educator in the fields of advanced PC operating platforms and PC technology since 1984. He is a contributing editor for Compute, BYTE, and OS/2 Magazine. You can contact him at CompuServe 71571,264 or via the Internet at mark@smtphost.mmco.com.



Scrolling Galore

TASK BAR, ICON CONVERSION, DEVICE DRIVER ORDERING, AND MORE...

BY DAVID REICH

SCROLLING COMMANDS

Q: How can I scroll through many commands and their output in my OS/2 Command Prompt window? I know I can set scrolling to On in the System menu, but I can only scroll a few lines at a time.

A: A suggestion sent in to me by Lou Yovin, who insists he stole it from someone, but can't remember who, uses PMREXX as a solution to this problem. Essentially, you execute the command interpreter in a PMREXX session. Because PMREXX has a large scroll buffer built into it, you can use it to buffer your command interpreter or command prompt session.

To set this up, first use your favorite text editor to create a file called *cmdscroll.cmd*. The file will look like this:

```
/* */
'cmd.exe'
exit
```

Once you have created this file, you can open a command prompt and type:

```
pmrexx cmdscroll <enter>
```

This will start PMREXX and execute the REXX program you have written. This REXX program simply starts *cmd.exe*, the command interpreter, and because PMREXX has a large scrollback buffer, it will buffer your output. Enter your commands in the Input field in PMREXX, and the output will be displayed in the main window. As the window fills and scrolls, you can use the scroll bar on the right side to scroll back through your commands and their output. Incidentally, you can do the same thing with the Enhanced Editor (EPM) command shell.

SCROLLING TELNET

One user wrote to me and asked if there was a way to do the same thing I described above for Telnet sessions. Specifically, he wanted to use this function with the EPM command shell.

Unfortunately, the EPM command shell cannot handle this function, and alas, neither can the PMREXX solution described above for command interpreter sessions. The reason lies in the way Telnet handles screen output.

Telnet performs functions, such as clearing the screen, and it performs others that are not standard line-out functions, which is really all PMREXX and EPM can handle. So, I have not yet found a way (at least not built into the system) to scroll back Telnet session output.

WINDOWS TASK BAR

Q: I would like to setup the OS/2 Launch Pad to open new instances of programs when I click on the icons. Windows' Task Bar allows me to graphically jump to running programs. Does OS/2 have a task bar?

A: OS/2 does not actually have a task bar, but you can configure it to act as if it did.

First, set up the system default to minimize running applications to the Minimized Window Viewer. Open the OS/2 System folder and the System Setup folder. Next, open the System object and left-click on the Window tab. Left-click on the Minimize Window to Viewer option. Close the Settings notebook by left-double-clicking on the system icon in the upper left corner of the screen.

You will also have to set some Windows' behavior separately. Each program reference object has its own setting for Minimize Behavior. And, for all of the program reference objects created before you set this up, you will need to change their Minimize Behavior setting. Alternately, you can delete these objects, and after setting the system default, recreate them. All objects created after you change the default will inherit the system default behavior.

Even though there is a system default behavior, you must use the default I have just described for newly created objects or anything that does not have a Workplace Shell object referencing it to override that behavior. This is really the power of object-oriented behavior; it allows a default action or behavior, and given each instance of an object, the ability to override this behavior.

After you have set the behavior for those objects you want on the task bar, open the Minimized Window Viewer. Resize the window by dragging the right border to the edge of the right side of the screen. Now, dragging the title

bar, move it to the left so the left border just disappears off the left edge of the screen. Then, stretch the right side again so the right border is at the edge. Manipulate it so you have just the right and left borders barely off the sides of the screen.

Now, use the keyboard to move the window to the top of the screen so that the title bar is just off the top. You can do so by clicking on the window, pressing <Alt+F7>, and using the arrow keys to move the window up. Right-click on the window to bring up the context menu and select Settings. If it is not already checked, left-click to check the Always Maintain Sort Order checkbox.

You now have a window that behaves like the Task Bar. You can go a step further by using the color palette to drag a silver-gray color to the window and setting the text color to the same color as the background to make that text invisible.

Thanks for this tip go to Ed Hasicka of the IBM PSP marketing team in Europe.

SORTING DRIVES

Q: I often use my computer in different environments. I will sometimes use it on a network, in my docking station, or I also use it as a standalone laptop. Because there are different disk configurations in each of these environments, I get a different look to my Drives folder each time I open it. I have even found that when I set the folder so that it always maintains the sorted order, it does not always line up right. What can I do?

A: You have found half of the solution by setting up the folder to Always Maintain Sorted Order. However, because the drives folder is populated based on the drives in your system, as well as network redirected drives, it cannot always keep your preferred arrangement.

One way to keep the drives in order is to make the folder very narrow in width and increase its vertical length. Using the sizing frame border, narrow the window (by dragging) to a width so that you can only see one drive across in the folder; then drag the height to the designated spot. Because you already have sorted order maintained in the folder settings, the objects in the drives folder will sort alphabetically. Regardless of what drive configuration you are running, you can now see the objects in order, you can find them easily, and they will maintain this sorted order.

For anyone who has not already set the sorted order for the folder, bring up the folder context menu by right-clicking on the folder object and selecting Settings with the left mouse button. Select the Sort page when the Settings Notebook appears. On the Sort page, check the box marked Always Maintain Sorted Order with a left mouse click, and then by left-double-clicking on the icon in the upper left, close the Settings Notebook.

RESERVE.SYS UPDATE

I first wrote about *reserve.sys* just before OS/2 Warp 3.0 shipped (February 1995, p. 68). Subsequently, some updates have been made.

Reserve.sys is a device driver that works with the automatic hardware detection in OS/2 Warp. This resource manager looks at the hardware in your system on each boot to see what is present and manages the resources appropriately. In many cases, the resource manager will "poke" data values into devices, such as network cards, to see how they respond. The system will then set itself up according to the responses given.

Not all hardware responds well to being poked. Because there is no way for OS/2 to know everything about every hardware device, especially which ones do and don't mind being poked, *reserve.sys* was created to reserve address spaces and other values after you have determined that a piece of hardware does not respond well to being poked by the resource manager.

In particular, there are two parameters, the */io* and */mem* parameters whose values have changed slightly since the original release of OS/2 Warp 3.0 in October 1994. If you are running any version of OS/2 Warp 3.0 besides the original with Win-OS/2 or the OS/2 Warp red-box version, the */io* and */mem* parameters for *reserve.sys* are different.

The changes are in the second parameter of each. For */io*, the second parameter had the number of port addresses to be reserved in decimal. It is now in hexadecimal (base 16) value. Because most uses for this parameter require less than 10 ports at a time (an "A" in hex), this should not affect most users all that much — but it is worth noting.

The change to the */mem* parameter of *reserve.sys*, however, is likely to affect more users. The first parameter remains unchanged. The second parameter, similar to */io*, which used to be specified in decimal, is now a hex value. So, the second parameter to */mem* in *reserve.sys* is the number of bytes, in hex, to be reserved, starting at the address given.

Thanks go to Eric Bentley for bringing this to my attention.

DRIVER ORDERING

Q: There are now so many different types of drivers in my *config.sys* that I don't know where to put additional drivers. Is the order important? And, if so, in what order do they execute? Also, how can I arrange my *config.sys* file to be more readable?

A: Driver ordering in *config.sys* becomes less important from release to release, because of the changes the OS/2 developers put into the system initialization processing. At the time this goes to press, drivers in *config.sys* are processed in the following order (by file name extension): *.ifs, .sys, .bid, .vsd, .tsd, .add, .i13, .flt, .dmd,* and *.os2*. You might not see drivers with these names in your own *config.sys*, which only means that you don't need drivers with these extensions. Among those with the same extension, the drivers are processed in the order in which they appear from top to bottom.

You can do a couple of things to help organize your *config.sys*. The two tools you can use are blank lines and REM statements. Earlier versions of DOS and OS/2 didn't allow either of these elements in *config.sys* files and

would report an error if you used them. Now, you can structure your *config.sys* file with blank lines to separate logical areas of the file, such as LAN device drivers, multimedia device drivers, and application-specific lines. You can add comments by using REM at the beginning of a line. And, you can annotate sections of your *config.sys* file so you can keep a written record of what the lines do. FaxWorks in the OS/2 BonusPak is an example of this function. FaxWorks adds REM lines that instruct you as to what each program line does.

WIN-OS/2 SOUNDBLASTER

Q: I was successfully using OS/2 2.11 with my Creative Labs' SoundBlaster 16 card in Win-OS/2. After I installed OS/2 Warp, the SoundBlaster stopped working in my Win-OS/2 sessions. I have the AUDIO_ADAPTER_SHARING setting set and have tried all of the values, but it did not help. Do you have any ideas?

A: Another user, Peter Wallis from Australia, had this problem a while back. Basically, OS/2 Warp 3.0 installation changes a line in the system.ini file. Fixing that line solves the problem.

In the drivers section of *system.ini*, you will see a line:

```
Wave=mvspeakr.drv
```

Change this line to:

```
Wave=sb16snd.drv
```

Now, restart your Win-OS/2 session. Your problem should be solved.

ICON CONVERSION

Q: After reading your July column, I attempted to convert a DOS program screen to an OS/2 icon using the process you had described. I got as far as having the Icon Editor open for the program object and was ready to change it, but when I tried to paste the screen, the paste function was grayed out. I even went to the OS/2 clipboard and verified that the image had been copied. What went wrong? I am using OS/2 2.11; will this process only work with OS/2 Warp?

A: The answer to your question is yes. Even though earlier versions of OS/2 were not designed this way, problems with this procedure did occur in the OS/2 2.11 release, depending on which service level you have on your system. OS/2 Warp 3.0 solves this problem, and the function works just fine.

David Reich has been with the OS/2 development team since 1987. He is a contributing editor and has written numerous articles on OS/2 and is the author of, "Designing High-Performance OS/2 Warp Applications" (John Wiley and Sons). Address Questions to him on CompuServe at 76711,632 or at speedracer@bocaraton.ibm.com.

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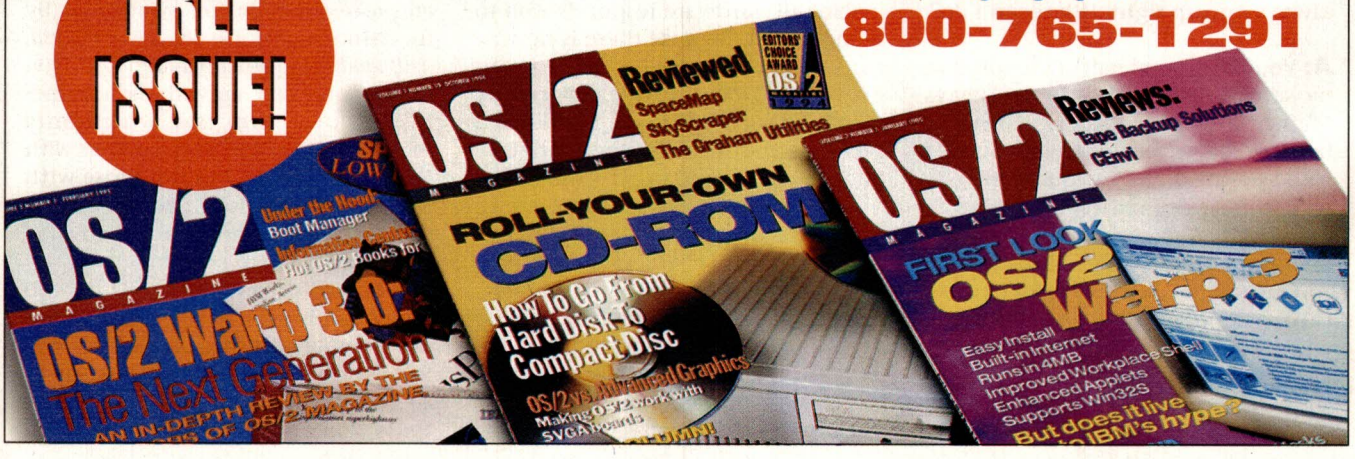


End Notes, *cont'd from p. 72*

passing the buck, not only between vendors, but between vendor departments. This explains the success of groups, such as CSI, that provide a single focus of support for a wide range of platforms, add-ons, and applications. A growing number of suppliers are routing their customer calls to CSI and similar companies, whether you know it or not.

However well organized, hotline tech support can be frustrating for both customer and advisor. We've all heard, or endured, the horror stories of prolonged, Muzak-infested, hold-the-line-please recordings. There is no real cure for these bottlenecks, because a software problem is likely to affect many users at the same time. Take Windows 95, please! The tech advisors, too, tell their tales of woe. Recall that 80% of American adults cannot set their VCR clocks. Imagine 80% of American adults on the phone with a faulty *config.sys*!

The chief merit of *OS/2 Warp Answers* then, is that it will reduce or eliminate the expense and humiliation of hot-line tech support.

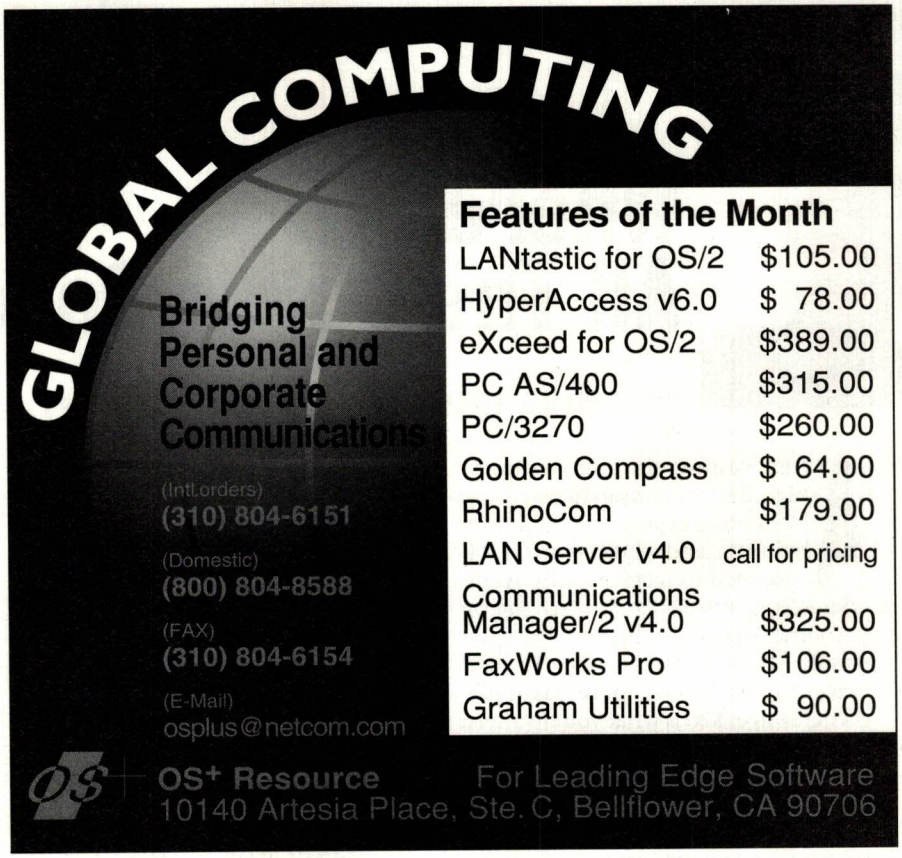
Postscript

As luck would have it, *OS/2 Warp Answers* arrived as I was engaged in assessing some OS/2 usability tests for a major company (I can say no more, so don't ask). I was able to benchmark the book against other sources and found that it provided the quickest path from general problem areas to specific solutions on all occasions.

RESOURCES

***OS/2 Warp Answers: Certified Tech Support* ($19.95)**
by Kathy Ivens
Osborne/McGraw-Hill
Berkeley, CA
READER SERVICE NO. 197

Stan Kelly-Bootle started computing on EDSAC I at Cambridge more than 40 years ago and has written at least 11 books. His "Devil's Advocate" column in UNIX Review has been running since 1984. His latest book is The Computer Contradictionary (MIT Press, 1995). He welcomes e-mail via CompuServe 70323,1560.



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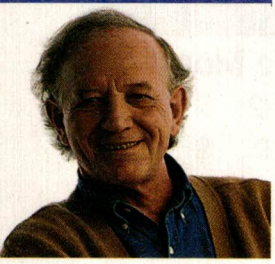

Where Have All The Gurus Gone?

OS/2 WARP ANSWERS: CERTIFIED TECH SUPPORT.

BY STAN KELLY-BOOTLE

After wading through so many high-density comprehensive, not to mention expensive, OS/2 bibles, hymnals, and wholly writs, I was delighted to receive Kathy Ivens' *OS/2 Warp Answers: Certified Tech Support* (Osborne/McGraw-Hill). The concept is simple, the execution perfect, and the price, under $20—a mere bagatelle. (Where I live, $20 is what you tip after a passable *caille en sarcophage*.)

Here's the sweet plot. Team up with Corporate Software Inc. (CSI), the world's largest provider of hotline tech support, and analyze its huge database of OS/2 Warp problems received and the solutions that were tested and dispensed. Pull out the MFAQs (most frequently asked questions) and have an experienced OS/2 author, Kathy Ivens, massage the answers into succinct easy-to-find categories.

The book has a brief introduction (no history and no histrionics) and eleven chapters, each of which covers a set of related problems and their suggested solutions. After a David Letterman-inspired Chapter 1 "Top Ten Tech Terrors," the author covers Installation, Setting Up and Configuring, Working on the Desktop, Files, Printing, BonusPak, Information Superhighway, Running Your Applications, and Common Error Messages. The final chapter is called "Late Breaking Answers and Complicated Explanations." This is an excellent idea that helps keep the main chapters crisp and readable. Before each chapter, is a *Behind the Scenes* section with a short explanation of how OS/2 works. Scattered throughout the book are supplementary Tech Tips, Tech Notes, and Tech Terrors. The layout and typography are admirably balanced throughout, and many legible screen shots are provided. There's a typo in the back cover blurb: "How do I add LaunchPad or its drawers?" The text itself correctly discusses "adding objects to the LaunchPad," creating drawers on the LaunchPad, and adding objects to drawers.

We can still dream of the ideal tech support solution: an ever-present Jeevesian type, with patience... degrees from MIT... OS/2-accredited... and always ready with the perfect cup of tea.

It turns out to be a most readable OS/2 tutorial, whether you have the given problems or not. Was it not Socrates who invented the question/answer method of teaching?

The result, to quote Randy Burkhart, CSI's senior vice president of technology, is "the next best thing to having a tech support expert by your side." This might well be understated. Given the range of questions answered, the book is more like having a team of gurus on hand. And, how many guru-minutes will $20 buy you these days? Not many, I'm afraid, but we can still dream of the ideal tech support solution: an ever-present Jeevesian type, with patience, sympathy, degrees from MIT in computer science and electronic engineering, OS/2-accredited, Novell-certified, and always ready with the perfect cup of tea. I see him as the preemptive guru, coughing discretely, "If I *may*, Sir," as he steers my mouse from a disastrous drag and drop. Failing that, there are many tech support alternatives, depending on your budget, skills, and the type of problem. The low-cost, self-help approaches include RTFM (Reading the Fine Manuals), bothering your friends, writing to *OS/2 Magazine*, and surfing the on-line forums. The vendor of the product that's troubling you might offer various support options, but generosity in this direction is fast dwindling. After a few free hot-line consultations, you must now be prepared to pay substantial hourly rates for advice—and don't expect house calls!

The high and increasing cost of all forms of tech support is not difficult to explain. Our systems are becoming insanely complicated, both the hardware and software, not to mention the cunning ways they interact. Paradoxically, the advent of user-friendly event-driven GUIs has made tech support harder: "Tell me exactly where you were pointing just before the cursor disappeared?"

Tech support demands continuous retraining to keep up with endlessly revised patches and patched revisions. There is, of course, abundant scope for

End Notes, *cont'd on p. 71*

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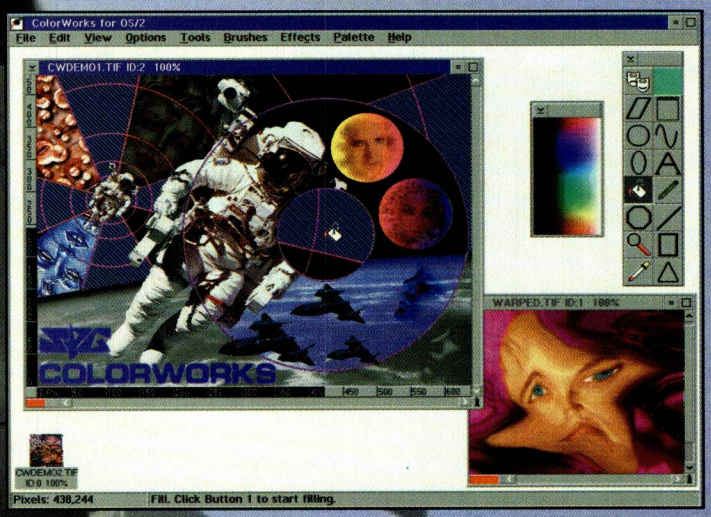
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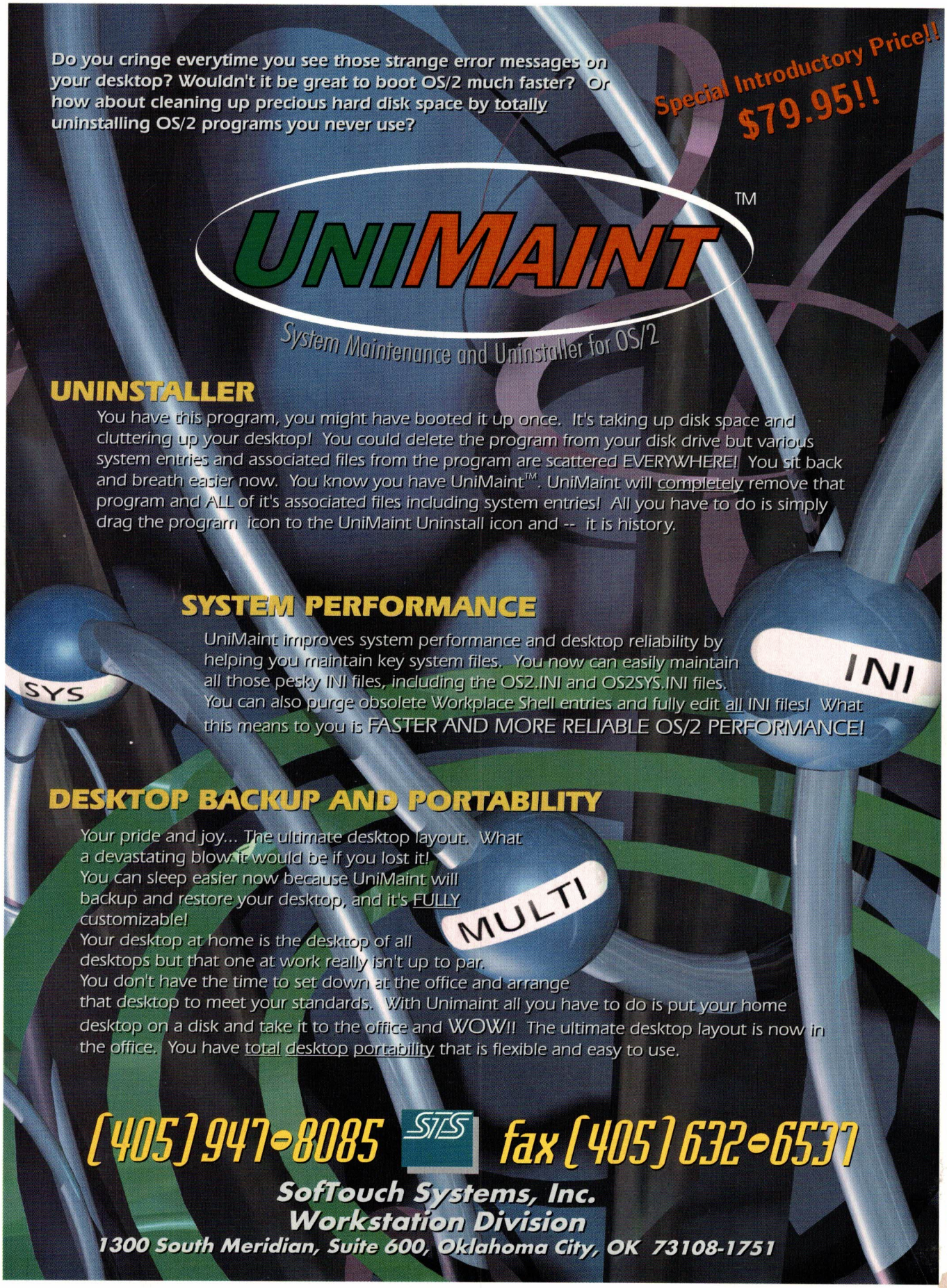
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